

# Web Services Functional Specification

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# 1 Introduction

## 1.1 Objective

The objective of this document is to detail the different Web Services for the distribution of information.

## 1.2 Scope

This document provides the technical and functional specifications so that customers can use the following Web Services:

- XBRL
- Issuers
- Indices
- Corporate Events SIC

# 2 Requirements

In order to register the Web Service, it's necessary to contact the Market Data area of the Mexican Stock Exchange Group to the [marketdata@grupobmv.com.mx](mailto:marketdata@grupobmv.com.mx) email, attaching the following information:

Concept	Business name of the subscribing company.
User	Key to identify the user. This same key must be sent in each request to the web service
IP Adress	The IP address from which the client can make a request to the service
Full Name	Full Name of the person in charge
Email	The medium by which the client will receive the Token that he must send in each request, as well as receive messages in case of a failure
Phone	Phone Contact

## 3 Web Services

### 3.1 XBRL

#### 3.1.1 getListaArchivos

By means of this method, the query of the available XBRL files to be downloaded is performed. In response to the request message, a message is sent with the result in XML format, which consists of the number of items in the list and a list of available XBRL files. In case of error, the report was returned in the response message.

#### Request Message

The XBRL Web Service is available in the following URL's:

- Production: <https://aplicaciones.bmv.com.mx:1443/WSXBRL?wsdl>
- Testing environment: <http://staging.bmv.com.mx:9082/WSXBRL?wsdl>

Detail of the fields that make up the request message:

FIELD	TYPE	LONG	DETAIL	REQUESTED
Usuario	ALPHA	30	User Key	YES
Token	ALPHA	8	Token Key	YES
Fecha	ALPHA	12	Date of the day the information is required (dd/mm/yyyy)	YES
Ultimo Folio	NUM	8	Folio from which you want to know what XBRL files are available for the requested day	NO

Ejemplo:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:soap="http://soap.ws.wsxbrl.bmv.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <soap:getListaArchivos>
      <Credencial>
        <token>TOKEN</token>
        <usuario>USER</usuario>
      </Credencial>
      <fecha>01/01/2018</fecha>
      <UltimoFolio>0</UltimoFolio>
    </soap:getListaArchivos>
  </soapenv:Body>
</soapenv:Envelope>
```

#### Reply Message

Detail of the fields that make up the response message:

FIELD	TYPE	LONG	DETAIL
NumeroArchivos	NUM	4	The number of elements contained in the list of available XBRL files. In case no XBRL files are available, the number will be 0.
Lista:			List of XBRL files available for download.
Emisora	ALPHA	8	Key of the Issuer that sent the XBRL file
Folio	NUM	8	Unique identifier of the XBRL file
Periodo	ALPHA	10	Maximum period reported within the XBRL file. With Format aaaa-0T, where T refers to the quarter reported
Errores			List of errors in case of failure
CodigoError	ALPHA	7	Code of the error presented when trying to attend the request
DescripcionError	ALPHA	200	Description of the error presented when trying to attend the request

Ejemplo:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:getListaArchivosResponse xmlns:ns2="http://soap.ws.wsxbrl.bmv.com/">
      <return>
        <numeroArchivos>2</numeroArchivos>
        <lista>
          <emisora>ISSUER_1</emisora>
          <folio>100000</folio>
          <periodo>2017-04</periodo>
        </lista>
        <lista>
          <emisora>ISSUER_2</emisora>
          <folio>100001</folio>
          <periodo>2017-04</periodo>
        </lista>
      </return>
    </ns2:getListaArchivosResponse>
  </soap:Body>
</soap:Envelope>
```

### 3.1.2 Download

Through this web service you get the download of the XBRL file. In response to the request message, the requested binary file is sent. In case of error, the report was returned in the response message.

#### Request Message

The Web Service for downloading XBRL is available at the following URL's:

- Production: <https://aplicaciones.bmv.com.mx:1443/WSXBRL/rest/xbrl?usuario=USER&token=TOKEN&folio=FOLIO>

- Testing enviroment: `http://staging.bmv.com.mx:9082/WSXBRL/rest/xbrl?usuario=USER&token=TOKEN&folio=FOLIO`

Replace: USER, TOKEN and FOLIO

Detail of the fields that make up the request message:

FIELD	TYPE	LAONG	DETAIL	REQUESTED
Usuario	ALPHA	30	User key	YES
Token	ALPHA	8	Token key	YES
Folio	NUM	8	Folio of the XBRL file that is requested	SI

### Reply message

Being a web service of the RESTful type, the answer consists of the binary file.

Only in case of an error at the time of attending the request, a message will be delivered with the following details:

FIELD	TYPE	LONG	DETAIL
CodigoError	ALPHA	7	Code of the error presented when trying to attend the request
DescripcionError	ALPHA	200	Description of the error presented when trying to attend the request

### 3.1.3 Error Catalog

[See Error Catalog Annex](#)

## 3.2 Issuers

### 3.2.1 obtenQuoteEmisorasMC

Through this method, the operations of an Issuer made in the Market are consulted. In response to the request message, a message is sent with the result in XML format. It is important to indicate that the information is delivered with a delay of 20 minutes

#### Request Message

The Issuers Web Service is available in the following URLs:

- Production: <http://aplicaciones.bmv.com.mx:80/WSQEMC/WsqemcService?wsdl>
- Testig enviroment: <http://staging.bmv.com.mx:9082/WSQEMC/WsqemcService?wsdl>

Detail of the fields that make up the request message:

FIELD	TYPE	LONG	DETAIL	REQUESTED
Usuario	ALPHA	30	User key	YES
Contrasena	ALPHA	8	Token key	YES
Emisora	ALPHA	8	Key to identify the issuer	YES
Serie	ALPHA	6	Serie	NO

Example:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:ser="http://servicios.soap.web.comunicacion.wsqemc.bmv.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <ser:obtenQuoteEmisorasMC>
      <arg0>
        <usuario>USER</usuario>
        <contrasena>PASSWORD</contrasena>
      </arg0>
      <arg1>ISSUER</arg1>
      <arg2>SERIE</arg2>
    </ser:obtenQuoteEmisorasMC>
  </soapenv:Body>
</soapenv:Envelope>
```

#### Reply message

Detail of the fields that make up the response message:

FIELD	TYPE	LONG	DETAIL
Codigo Re- spuesta	NUM	4	Response code to the request.
XML Opera- ciones	ALPHA	N/D	String with the message in XML format that contains the operation of the station and series.

Example:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:obtenQuoteEmisorasMCResponse
      xmlns:ns2="http://servicios.soap.web.comunicacion.wsqemc.bmv.com/">
      <return>
        <codigoRespuesta>0</codigoRespuesta>
        <xmlOperaciones>
          <?xml version="1.0" encoding="ISO-8859-1"?>
          <ListCotizaciones>
            <Cotizacion>
              <CodigoResultado>1</CodigoResultado>
              <DescResultado>Emision Correcta</DescResultado>
              <CveEmisora></CveEmisora>
              <CveSerie></CveSerie>
              <RazonSocial></RazonSocial>
              <Hora></Hora>
              <UltimoPrecioOp></UltimoPrecioOp>
              <PrecioAnt></PrecioAnt>
              <PPP></PPP>
              <PorcentajeVar></PorcentajeVar>
              <VariacionPts></VariacionPts>
              <NumOperaciones></NumOperaciones>
              <Volumen></Volumen>
              <Importe></Importe>
              <PrecioMaximo></PrecioMaximo>
              <PrecioMinimo></PrecioMinimo>
              <VolumenVenta></VolumenVenta>
              <PrecioVenta></PrecioVenta>
              <VolumenCompra></VolumenCompra>
              <PrecioCompra></PrecioCompra>
              <PrecioApertura></PrecioApertura>
              <Fecha></Fecha>
            </Cotizacion>
          </ListCotizaciones>
        </xmlOperaciones>
      </return>
    </ns2:obtenQuoteEmisorasMCResponse>
  </soap:Body>
</soap:Envelope>
```

### 3.2.2 Response Code

KEY	DETAIL
0	Correct Authentication. The user has not finished using their monthly hits.
1	Correct Authentication. The user has finished using his monthly hits but has an extension granted by the MSE
2	Wrong User
3	Incorrect password
4	IP address without permissions for this user
5	Restricted module for this user
6	Monthly hits spent for the requested module
7	Internal error, contact the administrator or the Market Data area market-data@grupobmv.com.mxmailto:marketdata@grupobmv.com.mx
8	You have sent a null object, verify your call data

### 3.2.3 Result Code

KEY	DETAIL
0	Incorrect Issuer. Key data Issuer or key series refers to a nonexistent Issuer
1	Correct Issuer. Key data Issuer or serial key refers to an Issuer that exists, that is not canceled and that has operating data
2	Issuer without Operation. Key data Issuer or serial key refers to an Issuer that exists, which is not canceled but does not have operating data
3	Issuer Canceled. Key data Issuer or serial key refers to an Issuer that exists but is in a canceled status
4	Issuer not contracted. Key data Issuer or serial key refers to an Issuer not contracted for consultation



### 3.3 Indices

#### 3.3.1 obtenQuoteIndicesMC

Through this method, the Indices are consulted. In response to the request message, a response message is sent with the result in XML format. It is important to indicate that the information is delivered with a delay of 20 minutes

#### Mensaje de Solicitud

The Index Web Service is available in the following URL's:

- Production: <http://aplicaciones.bmv.com.mx:80/WSQEMC/WsqemcService?wsdl>
- Testing enviroment: <http://staging.bmv.com.mx:9082/WSQEMC/WsqemcService?wsdl>

Detail of the fields that make up the request message:

FIELD	TYPE	LONG	DETAIL	REQUESTED
Usuario	ALPHA	30	User Key	YES
Contrasena	ALPHA	8	Token Key	YES
Indice	ALPHA	30	Indice short name	YES

Example:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:ser="http://servicios.soap.web.comunicacion.wsqemc.bmv.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <ser:obtenQuoteIndicesMC>
      <arg0>
        <usuario>USER</usuario>
        <contrasena>PASSWORD</contrasena>
      </arg0>
      <arg1>INDICE.SHORT.NAME</arg1>
    </ser:obtenQuoteIndicesMC>
  </soapenv:Body>
</soapenv:Envelope>
```

#### Reply Message

Detail of the fields that make up the response message:

FIELD	TYPE	LONG	DETAIL
Codigo Re- puesta	NUM	4	Response code to the request.
Operaciones XML	ALPHA	N/D	String with the message in XML format that contains the operation of the Issuer and series.

Example:

```

<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:obtenQuoteIndicesMCResponse
      xmlns:ns2="http://servicios.soap.web.comunicacion.wsqemc.bmv.com/">
      <return>
        <codigoRespuesta>0</codigoRespuesta>
        <xmlOperaciones>
          <?xml version="1.0" encoding="ISO-8859-1"?>
          <ListCotizaciones>
            <Cotizacion>
              <CodigoResultado>1</CodigoResultado>
              <DescResultado>Indice Correcto</DescResultado>
              <Indice></Indice>
              <Hora></Hora>
              <ValorIndice></ValorIndice>
              <ValorIndiceAnt></ValorIndiceAnt>
              <PorcentajeVar></PorcentajeVar>
              <VariacionPts></VariacionPts>
              <NumOperaciones>1</NumOperaciones>
              <Volumen></Volumen>
              <Importe></Importe>
              <ValorIndiceMaximo></ValorIndiceMaximo>
              <ValorIndiceMinimo></ValorIndiceMinimo>
              <ValorIndiceApertura></ValorIndiceApertura>
              <ValorIndiceCierre></ValorIndiceCierre>
              <Fecha></Fecha>
            </Cotizacion>
          </ListCotizaciones>
        </xmlOperaciones>
      </return>
    </ns2:obtenQuoteIndicesMCResponse>
  </soap:Body>
</soap:Envelope>

```

### 3.3.2 Response Code

KEY	DETAIL
0	Correct Authentication. The user has not finished using their monthly hits.
1	Correct Authentication. The user has already finished using his monthly hits but has an extension granted by the MSE
2	Wrong user
3	Wrong password
4	IP address without permissions for this user
5	Restricted module for this user
6	Monthly hits spent for the requested module
7	Internal error, contact the administrator or the Market Data area market-data@grupobmv.com.mxmailto:marketdata@grupobmv.com.mx
8	You have sent a null object, verify your call data

**3.3.3 Result Code**

KEY	DETAIL
0	Incorrect Indice. Indice data refers to a non-existent indices
1	Incorrect Indice. Index data refers to an existing Index
2	Index without Operation. The Index data refers to an Index that is not canceled but does not have operating data
3	Canceled Index. Index data refers to an Index that exists but is in canceled status
4	Index not contracted. The Index data refers to an Index not contracted for consultation

### 3.4 SIC Corporate Events

The Corporate Events of the SIC information is disseminated through two methods identified as C0 and C2. The difference is that the Corporate Events of the SIC disseminated through the C2 corresponds to modifications of the C0, therefore a C0 may have one or more C2 associated.

#### 3.4.1 getListoFormatoC0Json

Through this method, the SIC Corporate Events available to be downloaded will be consulted. In response to the request message, a message is sent with the result in XML format, which consists of the number of elements in the list and a list of available events. In case of Error, the report will be returned in the reply message.

#### Request Message

The Web Service of Corporate Events SIC is available in the following URLs:

- Production: <https://aplicaciones.bmv.com.mx:1443/WSXBRL?wsdl>
- Testing environment: <http://staging.bmv.com.mx:9082/WSXBRL?wsdl>

Detail of the fields that make up the request message:

FIELD	TYPE	LONG	DETAIL	REQUESTED
Usuario	ALPHA	30	User Key	YES
Token	ALPHA	8	Token Key	YES
Fecha	ALPHA	12	Date of the day the information is required (dd/mm/yyyy)	YES
Ultimo Folio	NUM	8	Unique identifier of Emisnet from which you want to know what files are available for the requested day	NO

Example:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:soap="http://soap.ws.wsxbml.bmv.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <soap:getListaFormatoC0Json>
      <Credencial>
        <token>TOKEN</token>
        <usuario>USER</usuario>
      </Credencial>
      <fecha>01/01/2018</fecha>
      <UltimoFolio>0</UltimoFolio>
    </soap:getListaFormatoC0Json>
  </soapenv:Body>
</soapenv:Envelope>
```

## Reply message

Detail of the fields that make up the response message:

FIELD	TYPE	LONG	DETAIL
numeroJson	NUM	4	The number of elements contained in the list of available JSON files. In case there are no available JSON files, the number will be 0.
Folio	NUM	8	Unique identifier of Emisnet
Errores			List of errors in case of failure
CodigoError	ALPHA	7	Code of the error presented when trying to attend the request
DescripcionError	ALPHA	200	Description of the error presented when trying to attend the request

Example:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:getListaFormatoC0JsonResponse xmlns:ns2="http://soap.ws.wsxbrl.bmv.com/">
      <return>
        <numeroJson>2</numeroJson>
        <registro>
          <folio>100000</folio>
        </registro>
        <registro>
          <folio>100001</folio>
        </registro>
      </return>
    </ns2:getListaFormatoC0JsonResponse>
  </soap:Body>
</soap:Envelope>
```

### 3.4.2 Download C0

The JSON file will be downloaded through this web service. In response to the request message, the requested file is sent. In case of Error, the report will be returned in the reply message.

## Request Message

The Web Service for downloading the JSON is available in the following URL's:

- Production: <https://aplicaciones.bmv.com.mx:1443/WSXBRL/rest/formatoC0Json?usuario=USER&token=TOKEN&folio=FOLIO>
- Testing environment: <http://staging.bmv.com.mx:9082/WSXBRL/rest/formatoC0Json?usuario=USER&token=TOKEN&folio=FOLIO>

Replace: USER, TOKEN and FOLIO

Detail of the fields that make up the request message:

FIELD	TYPE	LONG	DETAIL	REQUESTED
Usuario	ALPHA	30	User Key	YES
Token	ALPHA	8	Token Key	YES
Folio	NUM	8	Emisnet unique identifier of the JSON file that is requested	YES

### Reply message

Detail of the fields that make up the reply message:

FIELD	TYPE	DETAIL
Folio	NUM	Unique identifier of Emisnet
numeroJson	NUM	The number of JSON messages. This value will be equal to 1.
json	ALFA	JSON Message of the right en format ISO 20022.

Example:

```
<Datos>
  <folio>100000</folio>
  <numeroJson>1</numeroJson>
  <registro>
    <json>
      { "folioReferencia" : "12345" , ... }
    </json>
  </registro>
</Datos>
```

Only in case of an error at the time of the request, a message can be delivered with the following detail:

FIELD	TYPE	LONG	DETAIL
CodigoError	ALPHA	7	Code of the error presented when trying to attend the request
DescripcionError	ALPHA	200	Description of the error presented when trying to attend the request

### 3.4.3 getListoFormatoC2Json

By means of this method, the consultation of the modifications of the Corporate Events of the SIC available for download will be made. In response to the request message, a message is sent with the result in XML format, consisting of the number of items in the list and a list of available events. In case of error, the report will be returned in the reply message.

### Request Message

The Web Service of the Corporate Events SIC is available in the following URLs:

- Production: <https://aplicaciones.bmv.com.mx:1443/WSXBRL?wsdl>
- Testing enviroment: <http://staging.bmv.com.mx:9082/WSXBRL?wsdl>

Detail of the fields that make up the request message:

FIELD	TYPE	LONG	DETAIL	REQUESTED
Usuario	ALPHA	30	User key	YES
Token	ALPHA	8	Token Key	YES
Fecha	ALPHA	12	Date of the day the information is required (dd/mm/yyyy)	YES
Ultimo Folio	NUM	8	Unique identifier of Emisnet from which you want to know what files are available for the requested day	NO

Example:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:soap="http://soap.ws.wsxbrl.bmv.com/">
  <soapenv:Header/>
  <soapenv:Body>
    <soap:getListaFormatoC2Json>
      <Credencial>
        <token>TOKEN</token>
        <usuario>USUARIO</usuario>
      </Credencial>
      <fecha>01/01/2018</fecha>
      <UltimoFolio>0</UltimoFolio>
    </soap:getListaFormatoC2Json>
  </soapenv:Body>
</soapenv:Envelope>
```

## Reply Message

Detail of the fields that make up the reply message:

FIELD	TYPE	LONG	DETAIL
numeroJson	NUM	4	The number of elements contained in the list of available JSON files. In case there are no available JSON files, the number will be 0.
Folio	NUM	8	Unique identifier of Emisnet
Errores			List of errors in case of failure
CodigoError	ALPHA	7	Code of the error presented when trying to attend the request
DescripcionError	ALPHA	200	Description of the error presented when trying to attend the request

Example:

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <ns2:getListaFormatoC2JsonResponse xmlns:ns2="http://soap.ws.wsxbrl.bmv.com/">
      <return>
```

```

        <numeroJson>2</numeroJson>
        <registro>
            <folio>100000</folio>
        </registro>
        <registro>
            <folio>100001</folio>
        </registro>
    </return>
</ns2:getListaFormatoC2JsonResponse>
</soap:Body>
</soap:Envelope>

```

### 3.4.4 Download C2

The JSON file will be downloaded through this web service. In response to the request message, the requested file is sent. In case of Error the report will be returned in the reply message.

#### Request Message

The Web Service for downloading the JSON is available in the following URL's:

- Production: <https://aplicaciones.bmv.com.mx:1443/WSXBRL/rest/formatoC2Json?usuario=USER&token=TOKEN&folio=FOLIO>
- Testing enviroment: <http://staging.bmv.com.mx:9082/WSXBRL/rest/formatoC2Json?usuario=USER&token=TOKEN&folio=FOLIO>

Replace: USER, TOKEN y FOLIO

Detail of the fields that make up the request message:

FIELD	TYPE	LONG	DETAIL	REQUESTED
Usuario	ALPHA	30	User Key	YES
Token	ALPHA	8	Token Key	YES
Folio	NUM	8	Unique identifier of Emisnet	YES

#### Reply Message

Detail of the fields that make up the reply message:

FIELD	TYPE	DETAIL
Folio	NUM	Unique identifier of Emisnet
numeroJson	NUM	Number of JSON messages equal to or greater than 1.
json	ALPHA	JSON message of the right in ISO 20022 format. Unlike the JSON message sent in the C0 format, this message contains an additional field called 'dateModification' in the format 'dd/mm/yyyy HH: mm: ss'. The above in order to identify the order of the modifications made to the Corporate Event.

Example:



```

<Datos>
  <folio>100000</folio>
  <numeroJson>2</numeroJson>
  <registro>
    <json>
      {"folioReferencia": "12345",
        ...,
        "fechaModificacion": "25/04/2018_19:28:39",
        ... }
    </json>
  </registro>
  ...
  <registro>
    <json>
      {"folioReferencia": "12345",
        ...,
        "fechaModificacion": "26/04/2018_11:59:10",
        ... }
    </json>
  </registro>
</Datos>

```

Only in case of an error at the time of attending the request, a message will be delivered with the following detail:

FIELD	TYPE	LONG	DETAIL
CodigoError	ALPHA	7	Code of the error presented when trying to attend the request
DescripcionError	ALPHA	200	Description of the error presented when trying to attend the request

### 3.4.5 Catalog of Errors C0 and C2

[See Error Catalog Annex](#)

## 4 Annexes

### 4.1 Catalog of Errors XBRL and Rights

KEY	DETAIL
err_001	The user or token entered are not registered in the system from the IP (IP of the applicant) For any clarification, please contact MSE Group through the mail (support email)
err_002	The user entered is not active. For any clarification, please contact MSE Group through the mail (support email)
err_003	The IP (IP of the requestor) where the query is being performed is not registered. For any clarification, please contact MSE Group through the mail (support email))
err_004	The service can not be provided because it is out of hours. For any clarification, please contact MSE Group through the mail (support email)
err_005	You do not have the permissions to make a query with the requested date. For any clarification, please contact MSE Group through the mail (support email)
err_006	You have exceeded the number of downloads allowed for the requested file. For any clarification, please contact MSE Group through the mail (support email)
err_007	An error occurred while trying to download the file (name of the file) of type (prefix). For any clarification, please contact MSE Group through the mail (support email)
err_008	Service temporarily unavailable, try in (n) minutes. For any clarification, please contact MSE Group through the mail (support email)
err_009	The requested file is not found. For any clarification, please contact MSE Group through the mail (support email)
err_010	The file sent is not registered. For any clarification, please contact MSE Group through the mail (support email)
err_011	The request can not be completed due to missing parameters. For any clarification, please contact MSE Group through the mail (support email)
err_012	Does not have the permissions to request the file with a prefix (prefix). For any clarification, please contact MSE Group through the mail (support email)
err_013	The validity of your user has expired. For any clarification, please contact MSE Group through the mail (support email)
err_014	Error in the received parameters. For any clarification, please contact MSE Group through the mail (support email)
err_015	An error has not elapsed for the resumption of the download of this file. For any clarification, please contact MSE Group through the mail (support email)
err_016	Your user is inactive. For any clarification, please contact MSE Group through the mail (support email)
err_017	The user does not have any registered xbrl file prefix. For any clarification, please contact MSE Group through the mail (support email).