

API Developer Notes

Using Galileo Web Services MultiSubmitXml Method

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Contents

Overview	1
<i>MultiSubmitXml</i> Method	2
URL and WSDL Location	2
Web Service URLs.....	3
<i>MultiSubmitXml</i> Request.....	4
Request Format.....	4
Air Shopping Example	5
<i>MultiSubmitXML</i> Response.....	11
Air Shopping Response.....	11
Other Uses	13
Combination Rate and Hotel Description Request.....	13
Combination Hotel Response.....	14

Overview

The Galileo Web Services (GWS) multi-submit request allows an application to transmit several requests to the CRS in one GWS call, taking advantage of the GWS server farm at Galileo. Multi-submit is particularly useful for Air Shopping applications, but can also be used effectively in hotel and car applications. The multi-submit request provides the functionality of multi-threaded code, without the tedious programming needed to get multi-threaded code to work reliably.

MultiSubmitXml Method

The *MultiSubmitXml* method is included in the XML Select Web Service (XWS). The signature is:

```
MultiSubmitXml(string gwsHAP, XmlElement xmlRequest)
```

Because *MultiSubmitXml* is an XWS method, the URL and WSDL locations are the same as for the normal XWS method calls. Unlike other XWS calls, the filter is not one of the parameters because each request in the call has its own filter section. The format of *xmlRequest* is detailed in *MultiSubmitXml Request* section.

URL and WSDL Location

Based on the table below, you must change the DNS name of the URL associated with your application, based on your region or level of support. For example, if your application is based in the UK:

PRODUCTION

FROM:

https://ws.cendant.com/.../.../...
https://prodws.galileo.com/.../.../...
https://ws.travelport.com/.../.../...

TO:

https://emea.webservices.travelport.com/.../.../...

TEST / COPY

FROM:

https://copyws.cendant.com/.../.../...
https://copyws.galileo.com/.../.../...
https://copyws.travelport.com/.../.../...

TO:

https://emea.copy-webservices.travelport.com/.../.../...

See the following table for specific DNS changes by region.

Notes:

- All URLs are case-sensitive.
- Some customers (due to high volume usage) may receive a separate DNS name from those listed in the table below. If this is applicable, they will receive their DNS from their Travelport representative. For example, their DNS may be *companynamehere.webservices.travelport.com*

Region	DNS
Americas	americas.webservices.travelport.com

APAC (Asia Pacific)	apac.webservices.travelport.com
EMEA (Europe, Middle-East, Africa)	emea.webservices.travelport.com

Web Service URLs

Review the tables below to review the correct URL for your region.

Note:

- User names and passwords will be provided by your Galileo or Apollo representative.
- All URLs are case-sensitive.

Americas

XML Select Web Service	
Pre-Production	https://americas.copy-webservices.travelport.com/B2BGateway/service/XMLSelect?WSDL
Production	https://americas.webservices.travelport.com/B2BGateway/service/XMLSelect?WSDL

APAC

XML Select Web Service	
Pre-Production	https://apac.copy-webservices.travelport.com/B2BGateway/service/XMLSelect?WSDL
Production	https://apac.webservices.travelport.com/B2BGateway/service/XMLSelect?WSDL

EMEA

XML Select Web Service	
Pre-Production	https://emea.copy-webservices.travelport.com/B2BGateway/service/XMLSelect?WSDL
Production	https://emea.webservices.travelport.com/B2BGateway/service/XMLSelect?WSDL

MultiSubmitXml Request

When you send a multi-submit request, you should note

- Any collection of non-sessioned requests can be bundled in one multi-submit call, as long as one request does not depend on the response to another request in the same submission.
- Each request must have its own timeout setting, to define the length of time to wait for a response.
- Responses always are returned in the same order that the requests were submitted.

Request Format

The structure of a multi-submit request is similar to the following example. Note the TimeOut in the request element. Timeouts are in milliseconds.

```
<Requests>

  <Request TimeOut="15000">

    <Transaction>

      first request

    </Transaction>

    <Filter>

      <_ xmlns=""/> (default filter)

    </Filter>

  </Request>

  <Request TimeOut="15000">

    <Transaction>

      next request

    </Transaction>

    <Filter>

      <_ xmlns=""/>

    </Filter>

  </Request>

</Requests>
```

The recommended limit to the number of requests is 15 - 20 included in a single call, and there are diminishing returns if the number is extremely high. The GWS servers process the requests in parallel as much as resources permit. However, if the number of requests is larger than the available resources, some requests must wait for resources to become available. The response is returned after all requests have been processed.

Air Shopping Example

One of the primary uses of multi-submit is to issue several Shopping requests at the same time. For Air Shopping, multiple requests may be required due to multiple Private Fare account codes, or the desire to issue multiple requests that are differentiated by carrier specifications, different time windows, or other parameter variations.

The following example is a request with two Private Fare account codes:



```

<AirAvailMods>
  <GenAvail>
    <NumSeats>1</NumSeats>
    <Class/>
    <StartDt>20070201</StartDt>
    <StartPt>SFO</StartPt>
    <EndPt>DEN</EndPt>
    <StartTm>0800</StartTm>
    <TmWndInd>D</TmWndInd>
    <StartTmWnd>0600</StartTmWnd>
    <EndTmWnd>1200</EndTmWnd>
    <JrnyTm>99</JrnyTm>
    <FltTypeInd>E</FltTypeInd>
    <FltTypePref/>
    <StartPtInd>B</StartPtInd>
    <EndPtInd>B</EndPtInd>
    <IgnoreTSPref>Y</IgnoreTSPref>
    <WidenSearchWndInd>N</WidenSearchWndInd>
    <MaxNumFlts>48</MaxNumFlts>
    <IncNonStopDirectsInd>Y</IncNonStopDirectsInd>
    <IncStopDirectsInd>Y</IncStopDirectsInd>
    <IncSingleOnlineConxInd>Y</IncSingleOnlineConxInd>
    <IncDoubleOnlineConxInd>Y</IncDoubleOnlineConxInd>
    <IncTripleOnlineConxInd>N</IncTripleOnlineConxInd>
    <IncSingleInterlineConxInd>Y</IncSingleInterlineConxInd>
    <IncDoubleInterlineConxInd>Y</IncDoubleInterlineConxInd>
    <IncTripleInterlineConxInd>N</IncTripleInterlineConxInd>
  </GenAvail>
</AirAvailMods>

```

Return availability,
first request

```

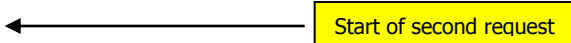
<SuperBBMods>
  <PFInfo>
    <ReqAirVPFs>Y</ReqAirVPFs>
    <PFary>
      <PF>
        <StartODRange>00</StartODRange>
        <EndODRange>00</EndODRange>
        <CRS>1V</CRS>
        <PCC>1ABC</PCC>
        <AirV/>
        <Acct>TOUR</Acct>
        <Contract/>
        <PublishedFaresInd>Y</PublishedFaresInd>
        <Type>V</Type>
        <PFTYPERestrict/>
        <AcctCodeRestrict>N</AcctCodeRestrict>
        <Spare1/>
      </PF>
    </PFary>
  </PFInfo>
  <PassengerType>
    <Psgrary>
      <Psgr>
        <LNameNum>1</LNameNum>
        <PsgrNum>01</PsgrNum>
        <AbsNameNum>1</AbsNameNum>
        <PTC>ADT</PTC>
        <Age><![CDATA[ ]]></Age>
        <PricePTCOnly>N</PricePTCOnly>
      </Psgr>
    </Psgrary>
  </PassengerType>
</SuperBBMods>
</FareQuoteSuperBB_9>
</Transaction>
<Filter>
  <_xmlns=""/>
</Filter>
</Request>

```

First account code

Fare specification, first request

End of first request

<Request>
 
 Start of second request

```

    <Transaction>
      <FareQuoteSuperBB_9>
        <AirAvailMods>
          <GenAvail>
            <NumSeats>1</NumSeats>
            <Class/>
            <StartDt>20070129</StartDt>
            <StartPt>DEN</StartPt>
            <EndPt>SFO</EndPt>
            <StartTm>0800</StartTm>
            <TmWndInd>D</TmWndInd>
            <StartTmWnd>0600</StartTmWnd>
            <EndTmWnd>1200</EndTmWnd>
            <JrnyTm>99</JrnyTm>
            <FltTypeInd>E</FltTypeInd>
            <FltTypePref/>
            <StartPtInd>B</StartPtInd>
            <EndPtInd>B</EndPtInd>
            <IgnoreTSPref>Y</IgnoreTSPref>
            <WidenSearchWndInd>N</WidenSearchWndInd>
            <MaxNumFlts>48</MaxNumFlts>
            <IncNonStopDirectsInd>Y</IncNonStopDirectsInd>
            <IncStopDirectsInd>Y</IncStopDirectsInd>
            <IncSingleOnlineConxInd>Y</IncSingleOnlineConxInd>
            <IncDoubleOnlineConxInd>Y</IncDoubleOnlineConxInd>
            <IncTripleOnlineConxInd>N</IncTripleOnlineConxInd>
            <IncSingleInterlineConxInd>Y</IncSingleInterlineConxInd>
            <IncDoubleInterlineConxInd>Y</IncDoubleInterlineConxInd>
            <IncTripleInterlineConxInd>N</IncTripleInterlineConxInd>
          </GenAvail>
        </AirAvailMods>

      <AirAvailMods>
        <GenAvail>
          <NumSeats>1</NumSeats>
          <Class/>
          <StartDt>20070201</StartDt>
          <StartPt>SFO</StartPt>
  
```

```

    <EndPt>DEN</EndPt>
    <StartTm>0800</StartTm>
    <TmWndInd>D</TmWndInd>
    <StartTmWnd>0600</StartTmWnd>
    <EndTmWnd>1200</EndTmWnd>
    <JrnyTm>99</JrnyTm>
    <FltTypeInd>E</FltTypeInd>
    <FltTypePref/>
    <StartPtInd>B</StartPtInd>
    <EndPtInd>B</EndPtInd>
    <IgnoreTSPref>Y</IgnoreTSPref>
    <WidenSearchWndInd>N</WidenSearchWndInd>
    <MaxNumFlts>48</MaxNumFlts>
    <IncNonStopDirectsInd>Y</IncNonStopDirectsInd>
    <IncStopDirectsInd>Y</IncStopDirectsInd>
    <IncSingleOnlineConxInd>Y</IncSingleOnlineConxInd>
    <IncDoubleOnlineConxInd>Y</IncDoubleOnlineConxInd>
    <IncTripleOnlineConxInd>N</IncTripleOnlineConxInd>
    <IncSingleInterlineConxInd>Y</IncSingleInterlineConxInd>
    <IncDoubleInterlineConxInd>Y</IncDoubleInterlineConxInd>
    <IncTripleInterlineConxInd>N</IncTripleInterlineConxInd>
  </GenAvail>
</AirAvailMods>

<SuperBBMods>
  <PFInfo>
    <ReqAirVPFs>Y</ReqAirVPFs>
    <PFary>
      <PF>
        <StartODRange>00</StartODRange>
        <EndODRange>00</EndODRange>
        <CRS>1V</CRS>
        <PCC>1ABC</PCC>
        <AirV/>
        <Acct>NET</Acct>
        <Contract/>
        <PublishedFaresInd>N</PublishedFaresInd>
        <Type>V</Type>
        <PFTTypeRestrict/>

```

Second account code

```

        <AcctCodeRestrict>N</AcctCodeRestrict>
        <Spare1/>
    </PF>
</PFary>
</PFInfo>
<PassengerType>
    <Psgrary>
        <Psgr>
            <LNameNum>1</LNameNum>
            <PsgrNum>01</PsgrNum>
            <AbsNameNum>1</AbsNameNum>
            <PTC>ADT</PTC>
            <Age><![CDATA[ ]]></Age>
            <PricePTCOnly>N</PricePTCOnly>
        </Psgr>
    </Psgrary>
</PassengerType>
</SuperBBMods>
</FareQuoteSuperBB_9>
</Transaction>
<Filter>
    <_xmlns=""/>
</Filter>
</Request>
</Requests>

```

← End of second request

MultiSubmitXML Response

MultiSubmitXML waits until responses have been generated for all of the requests. The responses are wrapped with a root node of <Responses>. Each response is enclosed in a <Response> element. The responses are returned in the same order that the requests were sent in the multi-submit call. The general format of the response is:

```
<Responses xmlns="http://ns.galileo.com">
  <Response>
    first response
  </Response>
  <Response>
    next response
  </Response>
</Responses>
```

Air Shopping Response

The response to the Air Shopping request is too large to include in this document, but an abbreviated response is shown below to illustrate the general format of the response.

If your application already generates and processes an XML Select formatted transaction, the only additions needed are:

- The code to pack the combination of requests together into a multi-submit request.
- The code to unpack each response and send it to the original processing method.

For low-fare Air Shopping, you may also find that you need to merge the fare/flights combinations to eliminate duplicate fares from being displayed in your results. One way to compare different fares is to use the fare construction lines, found in the <FareConstructText> element within the <FareConstruction> element in the <FareInfo> element.

```
<Responses xmlns="http://ns.galileo.com">
  <Response>
    <FareQuoteSuperBB_#>
      <AirAvail>
        <AvailSummary>
          <NumSegs>17</NumSegs>

          * * * More here * * *

          <AvailFlt>
            <AirV>UA</AirV>
            <FltNum>869</FltNum>
            <OpSuf/>
            <StartDt>20070129</StartDt>
            <StartAirp>DEN</StartAirp>
```

First Response



Other Uses

Although Shopping is the most obvious use of multi-submit, it can be used in other ways to improve the performance of your application and make your application “smarter.” Examples of possible uses include:

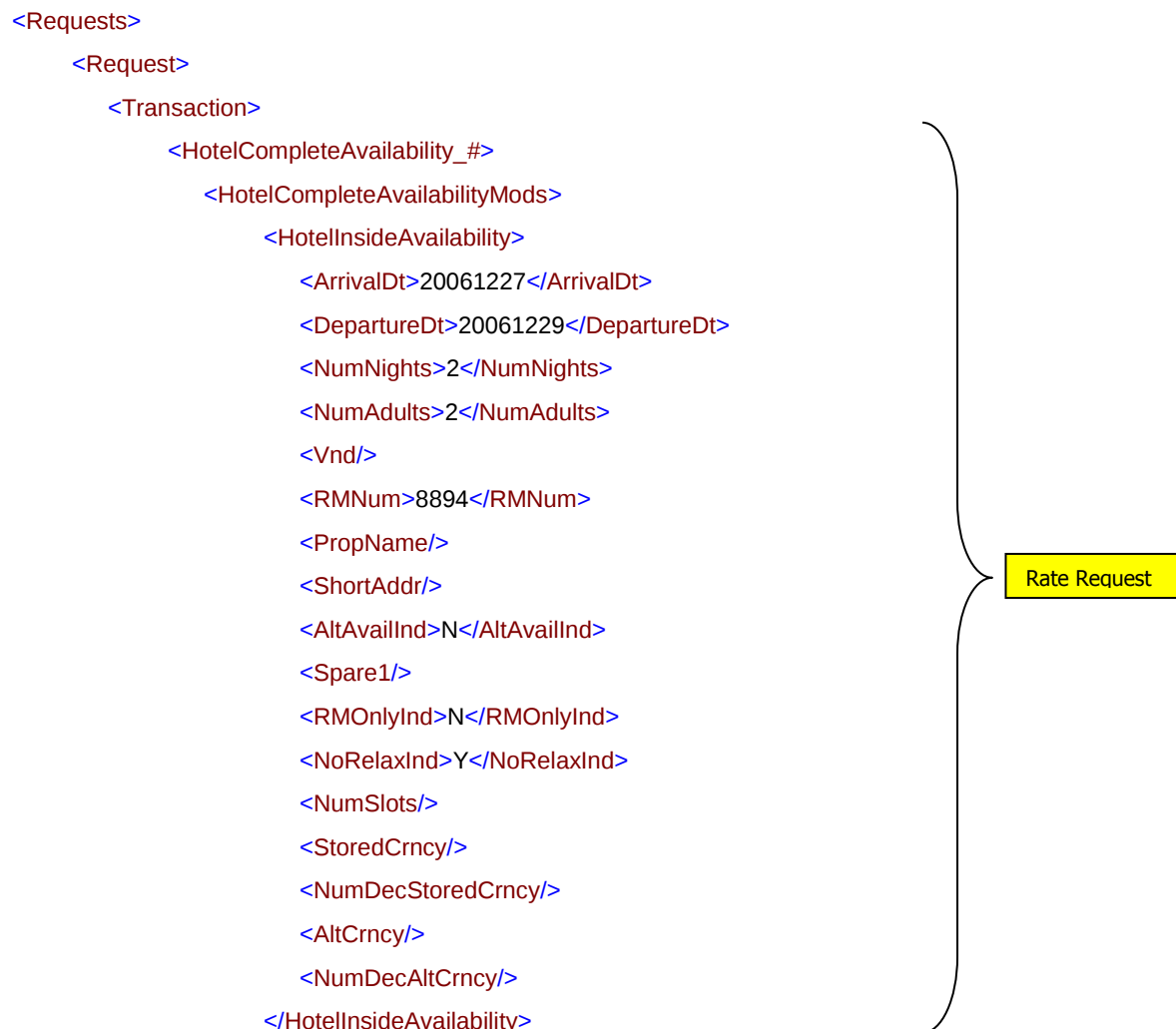
- Requesting car rates when a traveler asks for hotel availability, so that you can invite better car attachment rates.
- Combining car or hotel rules with rate requests.

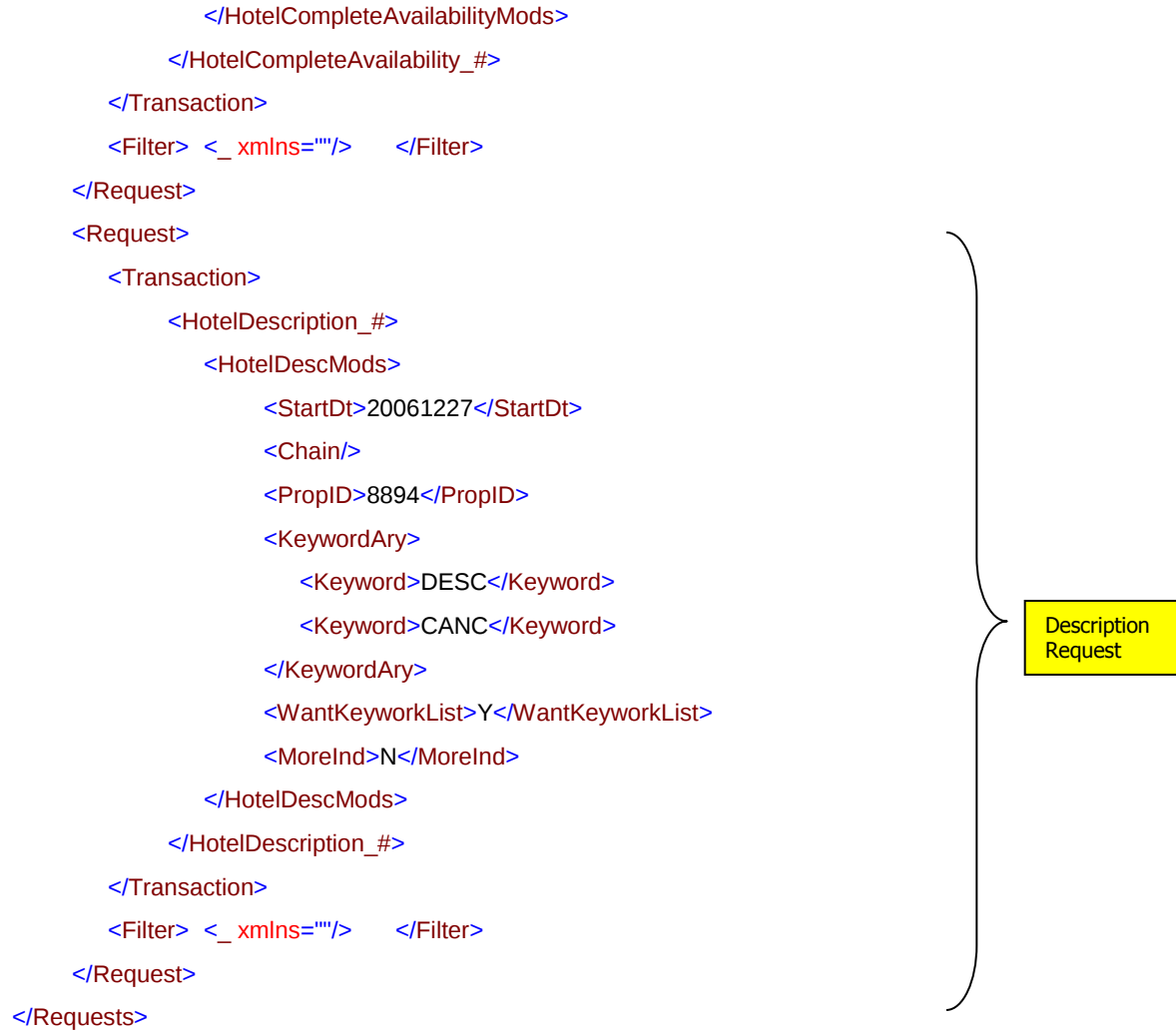
Any call that is used a large percentage of the time, and can save you a Web Services turn-around, is a candidate for a multi-submit request.

For example, in a hotel application, a traveler selects a property and requests the hotel rates. The traveler often follows these requests with a request for hotel description or rule information. Because the property is known when rates are requested, the additional information can be requested at the same time.

Combination Rate and Hotel Description Request

The following example shows a combined rate and hotel description request:





Combination Hotel Response

As expected, the response is the rates followed by the description information. The abbreviated response is:



```

        <State/>
        <MileKmInd/>
        <CityCodeRefMatch/>
    </HotelPropHeader>
    <HtlAvailHeader>
        <CatInd/>
        <StartDt>20061227</StartDt>
        <EndDt>20061229</EndDt>
        <NumNights>2</NumNights>
        <NumPersons>2</NumPersons>
        <PrefPropCnt/>
        <NeutralAvailInd/>
    </HtlAvailHeader>
    <HotelPropertyRecord>
        <Vnd>RZ</Vnd>
        <RMID>8894</RMID>
        <PropName>RITZ-CARLTON ST LOU</PropName>
        <ShortAddr/>
        <Dist>0</Dist>
        <Dir/>
        <Locn/>
        <Transportation/>
        <InsideLinkInd>I</InsideLinkInd>
        <AAARating/>
        <Advertiser/>
    </HotelPropertyRecord>
    <HotelVendorMarketing>
        <VMsg>PLACE BED TYPE AND NS REQS IN /SI</VMsg>
    </HotelVendorMarketing>
    <HotelRate>
        <StoredCrncy>USD</StoredCrncy>
        <StoredNumDec>2</StoredNumDec>
        <MoreRatesInd>N</MoreRatesInd>
        <IARatesOnlyInd>N</IARatesOnlyInd>
        <AvailNeedInd/>
        <TaxInd/>
        <RateChgInd>N</RateChgInd>
        <RoomByReq/>
        <RateCatInd/>
        <DispRate>WKN</DispRate>
    </HotelRate>

```

```

        <VStoredRateAmt>17900</VStoredRateAmt>
        <BIC>WKNE00</BIC>
        <RateGuarInd/>
        <PricingType>AT</PricingType>
        <TotAmt>41018</TotAmt>
    </HotelRate>
    <HotelRateDescription>
        <Desc>WEEKEND RATE, 1 KING OR 2 QUEEN BEDS, SPACIOUS</Desc>
    </HotelRateDescription>
    <HotelRateDescription>
        <Desc>ROOMS, FRENCH DOORS LEAD TO PRIVATE BALCONY,</Desc>
    </HotelRateDescription>
    <HotelRateDescription>
        <Desc>ITALIAN MARBLE BATH, 530 SQ FT</Desc>
    </HotelRateDescription>

    * * * More rates here * * *
</HotelCompleteAvailability>
</HotelCompleteAvailability_#>
</Response>
<Response>
    <HotelDescription_#>
        <HotelDescHeader>
            <ResponseInd>P</ResponseInd>
            <PropKeywordQual>
                <Chain>RZ</Chain>
                <PropID>8894</PropID>
                <Name>THE RITZ-CARLTON ST LOUIS</Name>
                <KeywordCnt>27</KeywordCnt>
                <TextLineCnt>45</TextLineCnt>
                <BrochureCnt>0</BrochureCnt>
                <AddrCnt>0</AddrCnt>
                <MoreInd>N</MoreInd>
                <NextKeyword>0</NextKeyword>
                <DBKey>0</DBKey>
                <Offset>0</Offset>
                <TextType/>
                <Status> </Status>
            </PropKeywordQual>
        </HotelDescHeader>

```

```

<HotelDescMenuItems>
  <TotlItemCnt>27</TotlItemCnt>
  <SupportedKeywordsAry>
    <SupportedKeywords>
      <Num>0</Num>
      <Keyword>BOOK</Keyword>
      <Desc>BOOKING GUIDELINES</Desc>
    </SupportedKeywords>
    <SupportedKeywords>
      <Num>1</Num>
      <Keyword>CANC</Keyword>
      <Desc>CANCELLATION POLICY</Desc>
    </SupportedKeywords>

    *** More keywords here ***
  </SupportedKeywordsAry>
</HotelDescMenuItems>
<HotelDescKeywordText>
  <TotlItemCnt>45</TotlItemCnt>
  <TextItemAry>
    <TextItem>
      <LineType>T</LineType>
      <Text/>
    </TextItem>
    <TextItem>
      <LineType>K</LineType>
      <Text>HOTEL DESCRIPTION</Text>
    </TextItem>

    *** More description info here ***
  </TextItemAry>
</HotelDescKeywordText>
</HotelDescription_#>
</Response>
</Responses>

```

