Applies to:
This solution is implemented for a combination of SAP BO XI 3.1 SP2 FP 2.1 and SAP NW BI 7.0 EHP1 SP6
For more information, visit the Business Objects homepage.

Summary
This document describes a case study in which an issue in SAP BI BO Integration has been highlighted and
a possible work around has been proposed.

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Introduction
The following describes a case study in which an issue in SAP BI BO Integration has been highlighted and a possible work around has been proposed.

Problem Statement
In an SAP BI BO Integration project, when a BO universe is built on a Bex query, there can be an issue of unit and formatted value objects not getting generated in a BO universe for few key figures. This results in an issue where the developer won’t be able to display the unit of that particular key figure in any BO report.

Few key figures wouldn’t make any sense unless it has a unit associated with it. For ratios and number of days, no unit is expected.

However, if the calculation is of Revenue, then Revenue getting displayed as 500 instead of 500 USD or any other valid currency will not be meaningful. Also it would be ok to display 500 * (calculated revenue is in multiple currencies). For example, if Revenue =A+B+C and if A & B are in different currencies, then the resultant currency should be shown as * . Not displaying any unit/currency would be an issue.
Proposed Solution

In the scenario above, if Revenue is created as a local formula in a Bex query, then there is a possibility that the unit and formatted value objects of Revenue are not being generated in the BO universe.

In this case, we can still arrive at the unit or currency of Revenue by identifying the individual key figures which are part of the Revenue formula. For example, if we have the unit objects of A, B, C key figures available in the universe, then we can arrive at the unit or currency of Revenue.

Below are the possible scenarios for currencies of any two key figures and based on their currency values what should be the final currency:

(* indicates multiple currencies; Null indicates no value; Not Null indicates some valid currency)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Currency 1</th>
<th>Currency 2</th>
<th>If Curr 1=Curr 2</th>
<th>Expected Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>*</td>
<td>Null</td>
<td>False</td>
<td>*</td>
</tr>
<tr>
<td>2</td>
<td>Null</td>
<td>*</td>
<td>False</td>
<td>*</td>
</tr>
<tr>
<td>3</td>
<td>*</td>
<td>Not Null</td>
<td>False</td>
<td>*</td>
</tr>
<tr>
<td>4</td>
<td>Not Null</td>
<td>*</td>
<td>False</td>
<td>*</td>
</tr>
<tr>
<td>5</td>
<td>*</td>
<td>*</td>
<td>True</td>
<td>*</td>
</tr>
<tr>
<td>6</td>
<td>Null</td>
<td>Null</td>
<td>True</td>
<td>Null</td>
</tr>
<tr>
<td>7</td>
<td>Not Null</td>
<td>Not Null</td>
<td>True</td>
<td>Currency 1</td>
</tr>
<tr>
<td>8</td>
<td>Not Null</td>
<td>Not Null</td>
<td>False</td>
<td>*</td>
</tr>
<tr>
<td>9</td>
<td>Not Null</td>
<td>Null</td>
<td>False</td>
<td>Currency 1</td>
</tr>
<tr>
<td>10</td>
<td>Null</td>
<td>Not Null</td>
<td>False</td>
<td>Currency 2</td>
</tr>
</tbody>
</table>

The code below has been implemented in a Web Intelligence report and covers all the possible above mentioned scenarios.

Formula to be used to evaluate the result of currency combination between two known currencies

Please use the following code:

```excel
=If(Currency 1="*" Or Currency 2="*" Or (Not (IsNull(Currency 1)) And Not (IsNull(Currency 2)) And (Currency 1<>Currency 2));"**";If((Currency 1=Currency 2) Or IsNull(Currency 2);Currency 1;Currency 2))
```

Considering the above example of Revenue=A+B+C, the above logic has to be used twice, once between A and B and second time between C and the previous result of A&B to arrive at the unit/currency of Revenue.
Related Content
For more information, visit the Business Objects homepage.
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