

TECH TIP

UNIFIER CUSTOM PRINT USING EXTERNAL DATA MODEL ORACLE PRIMAVERA UNIFIER

Unifier's Custom Print has a very powerful feature called "External Data Model". Different from the Internal Data Model with the Unifier BP itself as the data source, the external data model is using the data schemas defined at the BI Publisher level, via the data connections established in the BI Publisher. Therefore, you can create the Custom Print by consolidating multiple data sources, not just limited to the data from one single Unifier's BP.

To build the Custom Print with the External Data Model, the following steps need to be followed:

- 1. Create Data Model in BI Publisher
- 2. Create the essential parameters in the data model
- 3. Create the essential group filters in the data model
- 4. Generate and save the sample data in BI Publisher before saving the data model.
- 5. Export the Data Model from BI Publisher.
- 6. Load the sample schema into MS Word to build the RTF template.
- 7. Create Unifier Custom Print using External Data Model.
- 8. Upload External Data Model and RTF template into Unifier.
- 9. Publish and run the Unifier Custom Print.

Below is the illustration to walk through the entire process.

Create Data Model in BI Publisher

Go to BI Publisher, select **New > Data Model**, then **Diagram > SQL Query**, as shown below:

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Data Model	Diagram Structure Data Code					
Properties Data Sets Event Triggers Flexfields List of Values Parameters Bursting	+ ▼ X ■ SQL Query Image: LDAP Query Image: LDAP Query Image: MDX Query Image: Oracle BI Analysis Image: Oracle BI A	Click the New Data Set button to create new data set defi	inition			

Use the next form to develop the SQL Query directly or use **Query Builder** for assistance to develop the Data Set(s). The query may consist of multiple tables, even from multiple data sources, depending on the information requirement. However, the following two fields are required in the Data Set for the Custom Print development: **Project_ID** as Unifier's Project ID, and **ID** as Unifier's BP Record ID. For further detail, please reference Unifier's ER View.



If using the Query Builder, the fully qualified SQL statement will be generated as shown below.

Diagram Structure Data Code	Edit Data Set - Final GMP Custom Print	Ø ×
+• X	 * Name Final GMP Custom Print * Data Source UNIFIERSOURCE * Type of SQL Standard SQL * Type of SQL Standard SQL * SQL Query * select "UNIFIER_FINALGMP_BASE"."PROJECT_ID" as "PROJECT_ID", "UNIFIER_FINALGMP_BASE"."ID" as "ID", "UNIFIER_FINALGMP_BASE"."ID" as "SFO_CON_ID" as "SFO_CON_ID", "UNIFIER_FINALGMP_BASE"."TITLE" as "TITLE", "UNIFIER_FINALGMP_BASE"."BASECONTRACTAMT" as "BASECONTR "UNIFIER_FINALGMP_BASE"."BASECONTRACTAMT" as "BASECONTR "UNIFIER_FINALGMP_BASE"."BASECONTRACTAMT" as "BASECONTR "UNIFIER_FINALGMP_BASE"."BONDFEE" as "BONDFEE", "UNIFIER_FINALGMP_BASE"."BONDFEE" as "BONDFEE", "UNIFIER_FINALGMP_BASE"."DESIGNCOST" as "DESIGNCOST", "UNIFIER_FINALGMP_BASE"."DESIGNCOST" as "DESIGNCOST", "UNIFIER_FINALGMP_BASE"."DESIGNCOST" as "OTHERCOST", "UNIFIER_FINALGMP_BASE"."DESIGNCOST" as "OTHERCOST", "UNIFIER_FINALGMP_BASE"."CO_NONDESIGN" as "CO_NONDESIGN "UNIFIER_FINALGMP_BASE"."CO_NONDESIGN" as "CO_NONDESIGN "UNIFIER_FINALGMP_BASE"."CO_NONDESIGN" as "CO_NONDESIGN" 	

Create the Essential Parameters in the Data Model

After the Data Set(s) is created, the following default parameters need to be added, so Unifier can pass the runtime messages to BI Publisher.

- uuu_p_project_id : Project ID
- uuu_p_context_company_id : Company ID
- **uuu_p_process_id:** Workflow process ID
- **uuu_p_source_id**: Business process record ID
- **uuu_p_object_type**: Business process id as in uDesigner
- **uuu_p_hide_task_details**: To hide the task status if the user does not have permission. The value of 0 is passed if the user does not have permission to view the task statuses
- **uuu_p_hidden_comments:** To view the hidden comments, if the user has the permission. The value of 1 is passed if the user has the permission to view hidden comments

For more detail, please reference:

https://docs.oracle.com/cd/E80979_01/help/en/helpmain.htm?toc.htm?10287131.htm



Data Model	Pa	arameters					
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 Flexfields List of Values 		uuu_p_source_id	String •		Text 🔹	1	▲ ▼
Parameters		uuu_p_context_cor	String •		Text 🔻	1 🕏	▲▼
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[]]uuu_p_context_company_id		uuu_p_object_type	String •		Text 🔻	1 🕏	*
□]uuu_p_process_id		uuu_p_hide_task_c	String •		Text 🔻	1	*
[=]] uuu_p_object_type [=]] uuu_p_hide_task_details [=]] uuu_p_hidden_comments ⊿ Bursting		uuu_p_hidden_con	String		Text •	1	AV
		[Please select one a	nd only one row in	he above table for add	itional options.]		

Create the Essential Group Filters in the Data Model

For Custom print generation, two parameters: **uuu_p_project_id** and **uuu_p_source_id** are required to link to **Project_ID** and **ID** respectively as group filters in BI Publisher's Data Model. To build the group filters, go to the target Data Set, click the Funnel symbol, and enter the Group Filter Expression like this:

• (G_1.PROJECT_ID==param.uuu_p_project_id)&&(G_1.ID==param.uuu_p_source_id)

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Parameters		TITLE	A	ø	G_1 (G_1.PROJECT_ID==param.uuu_p_project_id)&& (G_1.ID==param.uuu_p_source_id)	
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Where G_1 is the name of the parent group



Generate and Save the Sample Data in BI Publisher Before Saving the Data Model

Click OK and go to the **Data** tab. Enter the Project ID and record ID in the parameter fields, then click **View.** If the data structure and data are shown successfully, click **Save As Sample Data**, so it can be used for RTF template development.

To render the schema correctly, please ensure all fields have data in your sample. Null value in the field may result in the field missing in the sample XML, which impacts the report development.

If everything goes well, save the entire Data Model to finalize the external data model creation.

Data Model	Diagram Structu e Data Code
Properties	Project ID 1143 Business process record ID 5 Company ID
Data Sets Final GMP Custom Print Event Triggers	Rows 50 ▼ View Export Save As Sample Data View Engine Log DATA DS
 Flexfields List of Values Parameters] uuu_p_project_id 	UUU_P_PROJECT_ID (1143) UUU_P_SOURCE_ID (5) UUU_P_CONTEXT_COMPANY_ID UUU_P_PROCESS_ID
ເຊັງ uuu_p_source_id ເຊັງ uuu_p_context_company_ ເຊັງ uuu_p_process_id ເຊັງ uuu_p_object_type	 UUU_P_OBJECT_TYPE UUU_P_HIDE_TASK_DETAILS UUU_P_HIDDEN_COMMENTS G_1
 □] uuu_p_hide_task_details □] uuu_p_hidden_comments ✓ Bursting 	PROJECT_ID (1143) ID (5) SFO_CON_ID (99996.66) TITLE (DB Services for CME Testing) CM APPTPS NQB (3852000)

Export the Data Model from BI Publisher

Go back to the Data Model which was just saved. Click "**More**"> "**Download**" to get the Data Model file. The file is a compressed file with extension "**.XDMZ**". Use the unzip tool such as 7-zip to extract the files. Inside the zip folder, there are two files to be used for Unifier's Custom Print development:

- _datamodel.xdm : External Data Model to be uploaded into Unifier
- **Sample.xml**: XML schema to be loaded into BI Publisher plugin for RTF template development

You may rename the files to fit the naming convention or other purpose, but the file extension (xdm, xml) should remain the same.



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Load the Sample Schema into MS Word to Build the RTF Template

Load Sample.xml into MS Word, then use the same method as developing the RTF template with the Internal Data Model.

Create Unifier Custom Print Using External Data Model

Go to Unifier's Configuration page under Company Workspace > Admin mode> Configuration > Custom Templates. Create a **Custom Print with external Data Model**, as shown below.



UNIFIER CUSTOM PRINT USING EXTERNAL DATA MODEL

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	Portfolio Manager		Contract Service Orders (C			Custom Print		External Multiple	uuu_32
	Resource Manager		Contract Summary			Internal Report		Internal	uuu_5
	Shell Manager		Contract Summary with Ac			Internal Report		Internal	uuu_6
	Sheli Mahayei		Cost Model Estimate			Internal Report		Internal	uuu_18
	Custom Templates		Cost Report			Internal Report		Internal	uuu_7
	Navigation Tabs		Daily Reports			Internal Report		Internal	uuu_8
			Design Reviews			Internal Report		Internal	uuu_9
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Upload External Data Model and RTF Template into Unifier

On the next page, enter the name and pick the BP for the Custom Print. After clicking Apply or OK, you will see additional tab "**Template File**". Now we can add the Data Model (_**datamodel.xdm**) and the RTF template respectively.

General	Template File		Add Data Model	
	Data Model(.xdm):	Final_GMP.xdm	Add / Modify	Download
Template Name		Template Type	Default	
Final GMP		RTF		
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Publish and Run the Unifier Custom Print

After uploading the 2 files successfully, go back to the **Configuration** > **Custom Templates** Page to publish the Custom Print, then it will be ready to run the Custom Print after opening the BP record.

Summary

Custom Print with External Data Model extends the data reporting capability beyond Unifier's data schema. Even within Unifier itself, it can stride across multiple BPs to enrich the report content and break the boundary which Internal Data Model has. A tech lead or architect may find it very useful as part of the enterprise reporting solutions.

