

ORACLE®

# Oracle Business Intelligence Publisher Overview & Best Practices

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Senior Principal Product Manager  
Business Intelligence

Kevin McDermott  
Senior Principal Technical Support Engineer  
Oracle

Oct 02, 2014

September 28–  
October 2, 2014  
San Francisco

ORACLE  
OPEN  
WORLD

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# Program Agenda

- 1 Oracle BI Publisher Overview
- 2 Easier, Better Managed & Faster
- 3 BI Publisher Best Practices
- 4 Data Model Design Best Practices
- 5 Layout Design Best Practices

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- 1 Oracle BI Publisher Overview
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- 4 Data Model Design Best Practices
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A photograph of three business professionals in a meeting. A woman in the center is speaking and gesturing with her hands. A man in the foreground is out of focus, and another woman is partially visible on the right. The background is a bright, blurred office setting.

# Oracle BI Publisher Overview

# Oracle BI Publisher Enterprise

## Single Solution Environment

- One Environment
  - Author
  - Generate
  - Deliver
- Benefits
  - Eliminate complexity
  - Simplify report development & maintenance
  - Reduce costs



# BI Publisher ... For All Your Reports

## Invoices

ORACLE CORPORATION INC.				
Redwood Shores, CA USA 94065				
PHONE (650) 123-4567, FAX (650) 123-4567				
				INVOICE
INVOICE NUMBER	INVOICE DATE	ORDER NUMBER	ORDER DATE	SALES REPRESENTATIVE
11006199	11-Jan-03	274244		
CUSTOMER NUMBER	CUSTOMER PURCHASE ORDER NUMBER	SHIPPING NO.	SHIP DATE	
10027451	POE/IMADILL			
TO: Aya Tsuzuku Beach Soft Inc. 500 Oracle Pkwy Redwood Shores, CA 94065			SHIP TO: Beach Soft Inc. 500 Oracle Pkwy Redwood Shores, CA 94065	
DESCRIPTION	QTY	UNIT PRICE	AMOUNT	TAX
Internet Application Server Standard Edition - Processor Perpetual Product Support - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 3301459 Users: 2	1	1023.89	1023.89	GST
NETWORK ACCESS FEE-DEPARTMENTAL Product Support - 2002/05/25 to 2003/05/30 License Qty: 2 CSI: 36294 Users: 1 CONCURRENT DEVICE DEPLOYMENT	1	1026.66	1026.66	GST
NETWORK ACCESS FEE-DEPARTMENTAL Product Support - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 3301459 Users: 1 CONCURRENT DEVICE DEPLOYMENT	1	1026.66	1026.66	GST
CDV Repository - Nonstandard User Product Support - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 36296 Users: 1 CONCURRENT DEVICE DEPLOYMENT	1	1026.66	1026.66	GST
Partitioning Named User Multi Server Software Updates (Updates Subscription Service) - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 82778 Users: 256 NAMED USER MULTI SERVER FULL USE	1	10483.20	10483.20	GST
Oracle Database Enterprise Edition - Nonstandard User Product Support - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 3301459 Users: 16	1	1100.23	1100.23	GST
Partitioning - Concurrent Device Product Support - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 3301459 Users: 48	1	1216.33	1216.33	GST
Programmer Nonstandard User Product Support - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 34937 Users: 1 CONCURRENT DEVICE FULL USE	1	143.25	143.25	GST
Express Server - Concurrent Device Software Updates (Updates Subscription Service) - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 3301459 Users: 6 APPS SPECIFIC FULL USE	1	1502.47	1502.47	GST
Partitioning Nonstandard User Software Updates (Updates Subscription Service) - 2003/11/25 to 2003/05/30 License Qty: 1 CSI: 3301459 Users: 32 FULL USE	1	1530.98	1530.98	GST
GST Registration No: R104008685	CUSTOMER COPY/COPIE DU CLIENT	Invoice Total	\$304,121.32	
GST Registration No: 1003633493		Tax Total	\$21,288.45	
TERMS: Net Due in 30 Days	PLEASE PAY THIS AMOUNT	\$325,409.68		



# BI Publisher ... For All Your Reports

Invoices

Correspondence

**ORACLE**  
Vielon Operations (USA) October 31, 2005

AT&T Universal Card  
5645 Main Street  
Jacksonville  
FL  
32209

Dear Sirs/Madam,

According to our records as of 01-JAN-04, we show the following open balances.  
Your CAD balance is \$31,500.00, made up as follows:

Invoice Number	Invoice Type	Invoice Amount	Bank Charge	Open Balance Amount
502444	Standard	\$19,125.00	\$0.00	\$19,125.00
502445	Standard	\$12,375.00	\$0.00	\$12,375.00
<b>Invoice Balance</b>				<b>\$31,500.00</b>
<b>On-Account Credits and Receipts</b>				<b>\$0.00</b>
<b>Total</b>				<b>\$31,500.00</b>

Your USD balance is \$3,365,647.61, made up as follows:

Invoice Number	Invoice Type	Invoice Amount	Bank Charge	Open Balance Amount
10019903	Standard	\$132,733.84	\$0.00	\$132,733.84
10020178	Standard	\$71,577.42	\$0.00	\$71,577.42
10020219	Standard	\$89,344.81	\$0.00	\$89,344.81
10020407	Standard	\$223,563.03	\$0.00	\$223,563.03
10020408	Standard	\$176,353.55	\$0.00	\$176,353.55
10020487	Standard	\$112,902.54	\$0.00	\$112,902.54
10020520	Standard	\$147,740.25	\$0.00	\$147,740.25
10020522	Standard	\$281,904.71	\$0.00	\$281,904.71
10020523	Standard	\$160,505.87	\$0.00	\$160,505.87
10020548	Standard	\$176,353.55	\$0.00	\$176,353.55

Oracle Corporation  
500 Oracle Parkway  
Redwood City  
CA 94065 Private and Confidential Page 7 of 12

PLEASE PAY THIS AMOUNT \$325,409.68

# BI Publisher ... For All Your Reports

Invoices

Correspondence

Purchase Orders

Oracle  
Vizion C

AT&T Un  
5645 Ma  
Jackson  
FL  
32209

Dear Sir  
Accordin  
Your CA

Oracle Co  
500 Oracle  
Redwood  
CA 94065

MasterCard  
Worldwide

**Purchase Order**

NUMBER 101209 REVISION 0 PAGE 1

SHIP TO: SEE BELOW FOR SHIPPING INFORMATION ON LINE

BILL TO: MasterCard International, Japan Inc.  
CERULEAN TOWER 16F  
25-1 SAKURAGACKA-CHO, SHIBUYA-KU  
150  
Japan

CUST ACCOUNT NO	VENDOR NO	DATE OF ORDER	BUYER	REVISION DATE
502444	123301	25-APR-2009	Gavin Chong	

PAYMENT TERMS	SHIP VIA	DESTINATION	FOB
Immediate	UPS Ground		

FREIGHT TERMS	REQUESTOR NAME	CONTACT
Fre Paid	Kyoko Moriyama	

All prices and amounts on this order are expressed in: JPY


LINE	DESCRIPTION	DATE NEEDED	QUANTITY	UOM	UNIT PRICE	AMOUNT	TAX
1	Box lunch SHIP TO: MCI Japan* CERULEAN TOWER 16F CERULEAN TOWER 16F, 25-1 SAKURAGACKA-SHO, SHIBUYA-KU, Tokyo, 150 Japan	03-MAY-20 09	36674	Each	1.00	36,674.00	N

**IMPORTANT:** Packing List with PO Number MUST be prominently displayed on OUTSIDE of carton for all deliveries. Failure to do so will result in payment delays.

TOTAL	AMOUNT	TAX
	36,674.00	JPY

Special Information

See Terms & Conditions - Standard  
This order is placed by Purchaser subject to Seller's assent to the terms, conditions, and instructions on the face and reverse sides hereof, and by accepting this order, Seller must execute the acknowledgement copy of this order and return it to Purchaser. Purchases hereby expressly objects to each different of additional term inserted by Seller in the acceptance of this order. No additions or modifications hereto will be binding upon Purchaser unless agreed to in writing by a duly authorized representative of purchaser. Specifications, drawings and data submitted to Seller with this purchase order are part of this order.

By:   
Gavin Chong  
MasterCard International, Japan Inc.

Instructions to Vendor  
• Packing slip must accompany all shipments and be placed on the outside of the box.  
Packing list and invoices must mirror purchase order.

# BI Publisher ... For All Your Reports

Invoices

Correspondence

Purchase Orders

Shipping Labels

<p>ORACLE Vielon C</p> <p>AT&amp;T Un 5645 Ma Jackson FL 32209</p> <p>Dear Sir Accordin Your CA</p> <p>Invoice Number 502444 502445</p> <p>Invoice On-Acc Total Your US</p> <p>Invoice Number 100199 100201 100202 100204 100204 100204 100205 100205 100205 100205</p> <p>Oracle Co 500 Oracle Redwood CA 94065</p>	<p>FROM: My Toy Supplier 300 Oracle Parkway Redwood Shores CA 94065</p> <p>CARRIER: 1324324232-354354 PRO NUMBER: 1324324232-354354 B/L NUMBER: 1324324232-354354</p> <p>TO: <b>KMART STORE # 1234</b> 100 El Camino Real Redwood City CA 94404</p> <p>SHIP TO POSTAL CODE</p> <p>PO#: 12345678 ORDER TYPE: 123 DEPT: 123</p> <p>SERIAL SHIPPING CONTAINER</p> <p>See Terms &amp; Conditions - Standard This order is placed by Purchaser subject to Seller's assent to the terms, conditions, and instructions on the face and reverse sides hereof, and by accepting this order, Seller must execute the acknowledgement copy of this order and return it to Purchaser. Purchaser hereby expressly objects to each different of additional term inserted by Seller in the acceptance of this order. No additions or modifications hereto will be binding upon Purchaser unless agreed to in writing by a duly authorized representative of purchaser. Specifications, drawings and data submitted to Seller with this purchase order are part of this order.</p> <p>Instructions to Vendor • Packing slip must accompany all shipments and be placed on the outside of the box. • Packing list and invoices must mirror purchase order.</p> <p>By _____ Geno Cloud MasterCard International, Japan Inc.</p>
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# BI Publisher ... For All Your Reports

Invoices

Correspondence

Purchase Orders

Shipping Labels

Govt. Forms

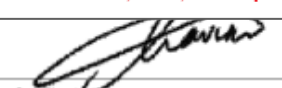
22222		Void <input type="checkbox"/>	a Employee's social security number 888-88-8888		For Official Use Only ▶ OMB No. 1545-0008		
b Employer identification number (EIN) 00-5763965			1 Wages, tips, other compensation \$50,000.00	2 Federal income tax withheld \$7,000.00			
c Employer's name, address, and ZIP code ABC Corporation 8356 Main Street Suite A Chicago, IL 85439			3 Social security wages \$50,000.00	4 Social security tax withheld \$3,000.00			
			5 Medicare wages and tips \$50,000.00	6 Medicare tax withheld \$700.00			
			7 Social security tips	8 Allocated tips			
d Control number 000008953 JRM			9 Advance EIC payment	10 Dependent care benefits \$1,000.00			
e Employee's first name and initial Jane		Last name Smith	Suff.	11 Nonqualified plans		12a See instructions for box 12 C \$8.00	
8943 Elm Street Naperville, IL 85433			13 Statutory employee <input type="checkbox"/>	Retirement plan <input checked="" type="checkbox"/>	Third-party sick pay <input type="checkbox"/>	12b D \$90.00	
			14 Other			12c V \$4,000.00	
						12d	
f Employee's address and ZIP code							
15 State	Employer's state ID number	16 State wages, tips, etc.	17 State income tax	18 Local wages, tips, etc.	19 Local income tax	20 Locality name	
IL	01-656239 1	\$50,000.00	\$1,500.00	\$50,000.00	\$700.00	Naperville	

Form **W-2** Wage and Tax Statement **2007** Department of the Treasury—Internal Revenue Service  
 Copy A For Social Security Administration — Send this entire page with Form W-3 to the Social Security Administration; photocopies are not acceptable. For Privacy Act and Paperwork Reduction Act Notice, see back of Copy D. Cat. No. 10134D

**Do Not Cut, Fold, or Staple Forms on This Page — Do Not Cut, Fold, or Staple Forms on This Page**

CA 94055 I hereby expressly object to each statement or accounting term entered by Seller in the acceptance of this order. No additions or modifications hereto will be binding upon Purchaser unless agreed to in writing by a duly authorized representative of purchaser. Specifications, drawings and data submitted to Seller with this purchase order are part of this order.

Instructions to Vendor  
 • Packing slip must accompany all shipments and be placed on the outside of the box.  
 • Packing list and invoices must mirror purchase order.

By   
 Gary Cloud  
 MasterCard International, Japan Inc.

# BI Publisher ... For All Your Reports

Invoices

Correspondence

Purchase Orders

Shipping Labels

Govt. Forms

EFT & EDI

22222	Void <input type="checkbox"/>	a Employee's social security number 888-88-8888	For Official Use Only ▶ OMB No. 1545-0008
b Employer id 00-57639	H1018N031018094458		
c Employer's n ABC Corp 8356 Main Suite A Chicago,	Q 00000000000033321031018000000000195740435094459		
	QPayer Bill To Name Payer Bill To addr line1 094460		
	T swift122352BE 094461		
d Control num 00000895	T/BE68 5390 0754 7034 00000000013000560094462		
e Employee's Jane	TBelComp57 031001 EUR 500 BelComp58 031002 EUR 2500 BelComp59 031002 EUR 3500 00094463		
8943 Elm Naperville	TBelgian Computer Brussels Payee addr line1		
	I BelComp57 0000000500EURO94465		
	I BelComp58 00000002500EURO94466		
	I BelComp59 00000003500EURO94467		
	I BelComp60 00000006500EURO94468		
f Employee's 15 state Emp	U BE 00600000000500094469		
	V no 00061234110000000000000006000N094470		
	V yes 00061234110000000000000006500J094471		
IL 01-	T US Chase Manhattan Chase Southampton Branch APC US Bank Acct 60 Main Street 094472		
Form W-2 Copy A For S Form W-3 to th	T/234784342 0000000006573980094473		
Do I	TAPC-US331 031001 EUR 2573 APC-US332 031002 EUR 4000 00094474		
CA 94055	TAPC HQ 132 Fairgrounds Road		
	I APC-US331 00000002573EURO94476		
	I APC-US332 00000004000EURO94477		
	Z 00000000019573094480		
• Packing slip must accompany all shipments and be placed on the outside of the box. Packing list and invoices must mirror purchase order.			

# BI Publisher ... For All Your Reports

- Invoices
- Correspondence
- Purchase Orders
- Shipping Labels
- Govt. Forms
- EFT & EDI
- Checks

22222	Void <input type="checkbox"/>	a Employee's social security number 888-88-8888	For Official Use Only ▶ OMB No. 1545-0008
Employer Id. H1018M031018094458			
<b>Oracle Corporation</b> 500 Oracle Parkway Redwood Shores, CA 94404		Date: 11/22/2004	
Pay to the order of <u>Vision Corporation</u>		<b>\$ 2,100.00</b>	
Two thousand one hundred and zero cents*****			
Anonymous Bank Aaa Street New York, NY 10000			
Memo		<i>Laurence Ellison</i> MP	
⑆ 2340432 ⑆ 3726 ⑆ 789930 ⑆ 7676			
15 State Emp	V no	00061234110000000000000006000N094470	
	V yes	00061234110000000000000006500J094471	
IL 01	T	US Chase Manhattan Chase Southampton Branch APC US Bank Acct 60 Main Street	
		094472	
Form W-2	T/234784342	0000000006573980094473	
Copy A For S	TAPC-US331 031001 EUR 2573 APC-US332 031002 EUR 4000		
Form W-3 to th	00094474		
Do I	TAPC HQ 132 Fairgrounds Road		
CA 94055	I APC-US331 00000002573EUR094476		
	I APC-US332 00000004000EUR094477		
	Z 00000000019573094480		
• Packing slip must accompany all shipments and be placed on the outside of the box. Packing list and invoices must mirror purchase order.			



# BI Publisher ... For All Your Reports

Invoices

Correspondence

Purchase Orders

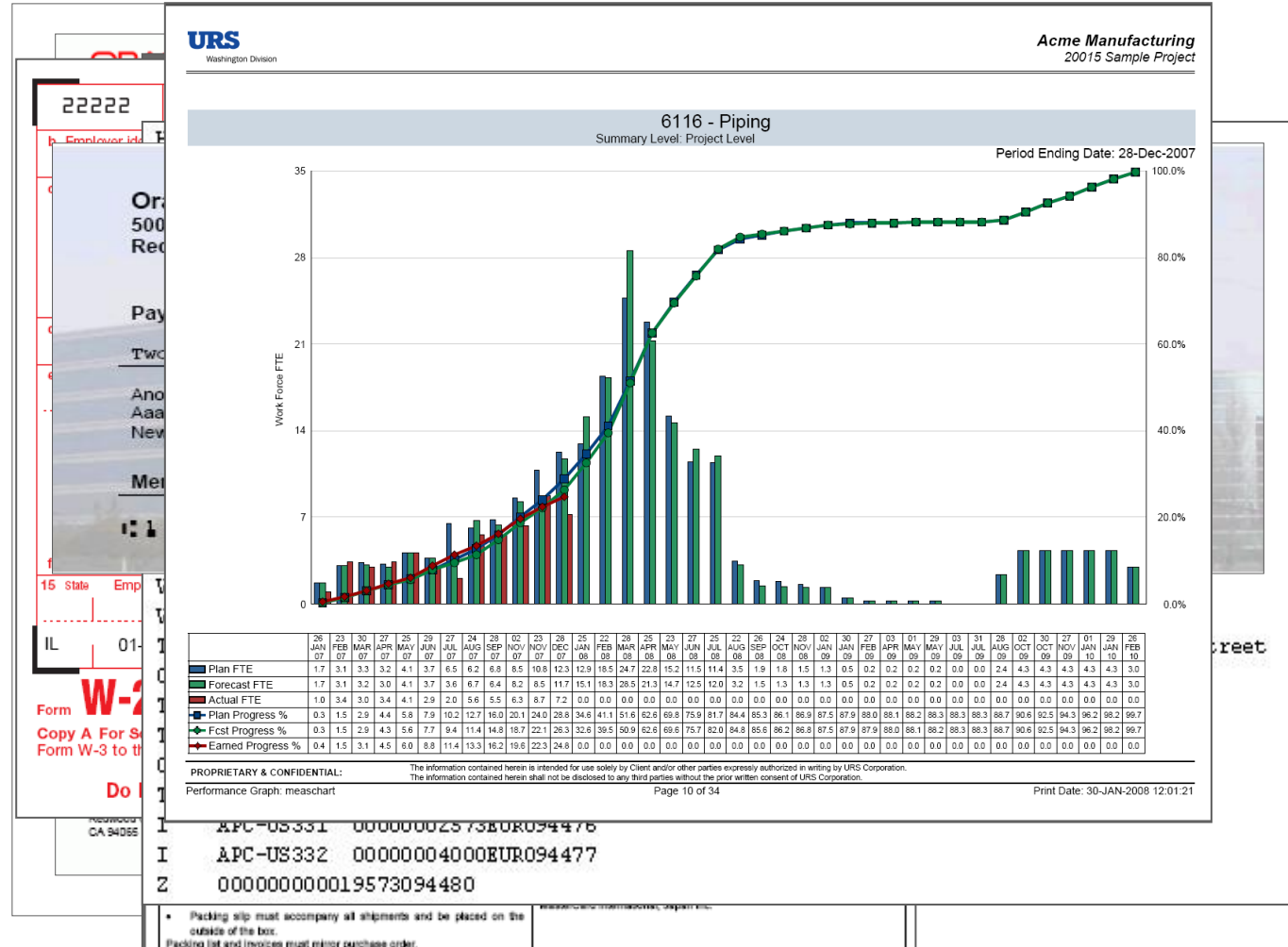
Shipping Labels

Govt. Forms

EFT & EDI

Checks

Operational Reports







# BI Publisher ... For All Your Reports

Invoices

Correspondence

Purchase Orders

Shipping Labels

Govt. Forms

EFT & EDI

Checks

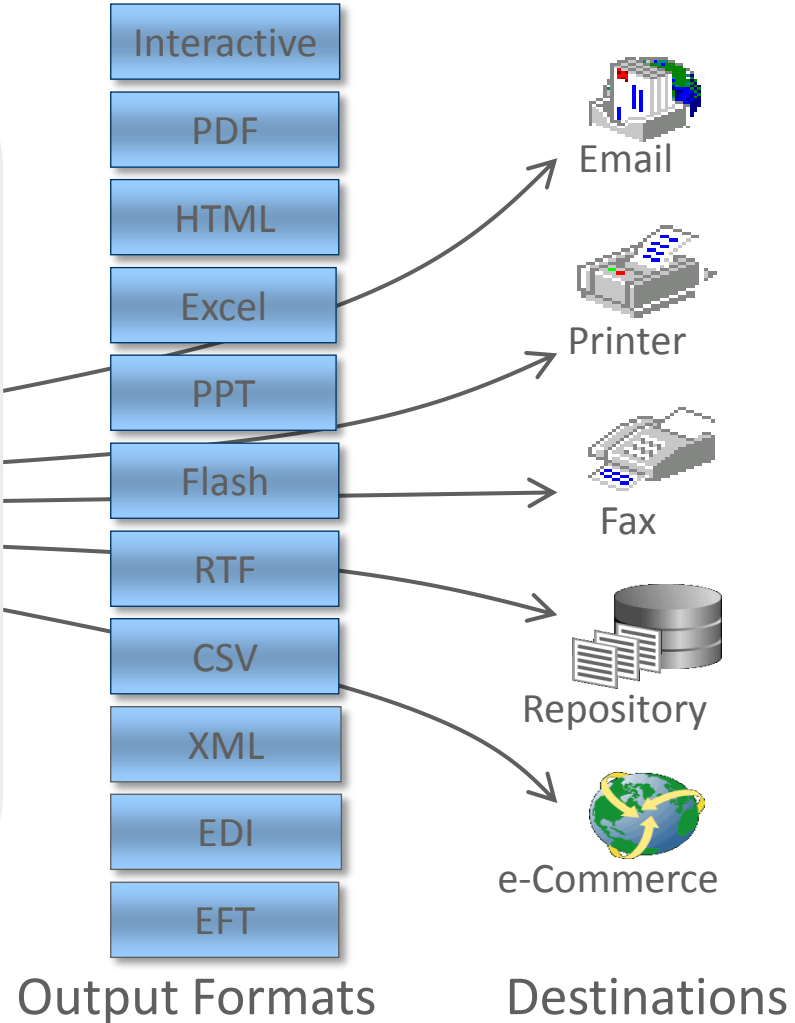
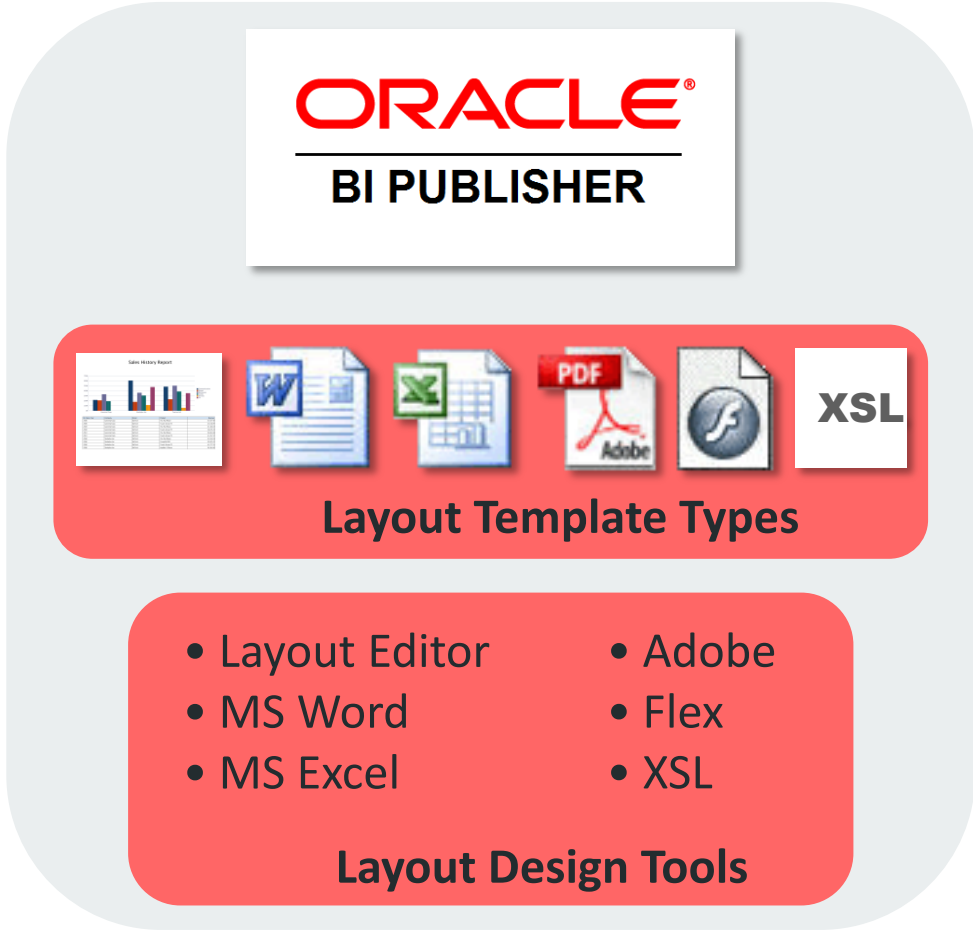
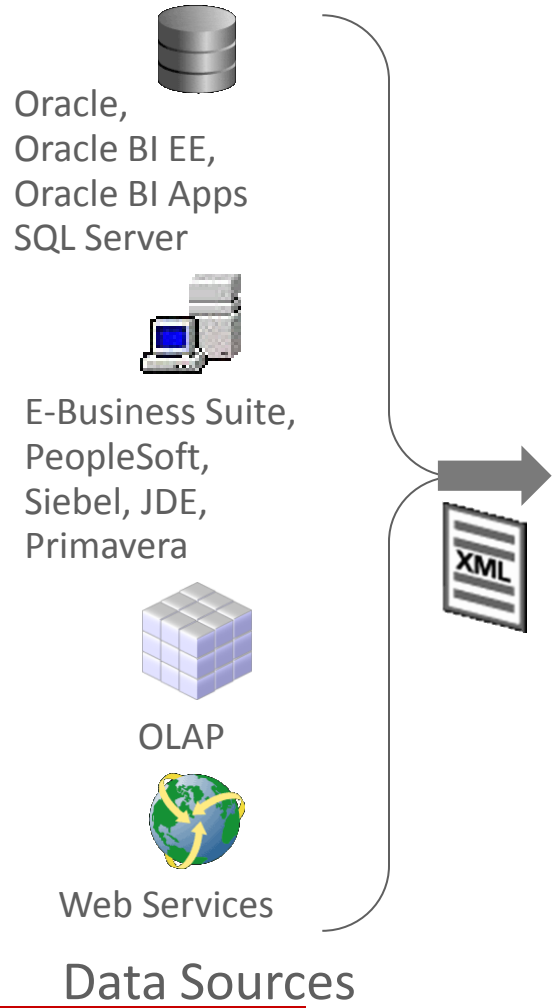
Operational Reports

Financial Statements

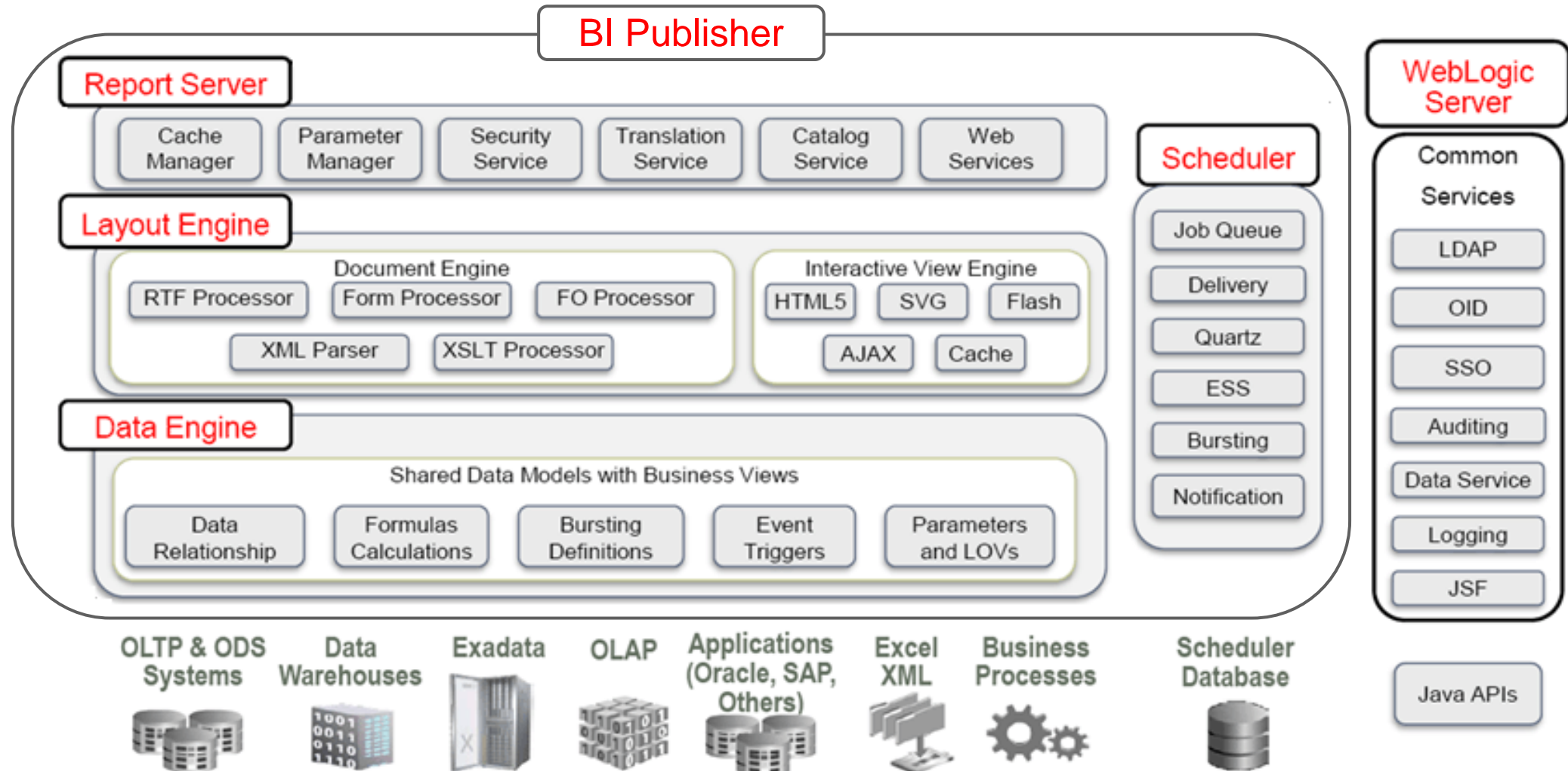
Interactive Reports



# Oracle BI Publisher Enterprise



# Oracle BI Publisher Enterprise



# Program Agenda

- 1 Oracle BI Publisher Overview
- 2 Easier, Better Managed & Faster**
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- 5 Layout Design Best Practices



Easier, Better Managed & Faster

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# BI Publisher: Easier to Implement



MasterCard  
Worldwide

Easier

## Challenge

- Purchase Orders for 50 Operating Units across the globe
- Vendor Country Terms & Conditions
- 90 days and 3 people (incl. 3<sup>rd</sup> party vendor) to implement POs

## Solution

- BI Publisher' ease of development
- 3 days and 1 person to implement POs

## Benefits

- 12x faster implementation w/ 1/3 fewer people
- Over 90% reduction in turn around time
- End-to-End process using out of the box functionality

**MasterCard Worldwide** **Purchase Order** NUMBER 101289 REVISION 0 PAGE 1

SHIP TO: SEE BELOW FOR SHIPPING INFORMATION ON LINE

BILL TO: MasterCard International, Japan Inc. CERULEAN TOWER 16F 25-1 SAKURAGACKA-CHO, SHIBUYA-KU Japan

CUST ACCOUNT NO	VENDOR NO	DATE OF ORDER	BUYER	REVISION DATE
	123301	25-APR-2009	Gavin Cheng	
PAYMENT TERMS	SHIP VIA	FOB		
Immediate	UPS Ground	Destination		
FREIGHT TERMS	REQUESTOR NAME	CONTACT		
Pre Paid	Kyoto MoriYama			

All prices and amounts on this order are expressed in: JPY

LINE	DESCRIPTION	DATE NEEDED	QUANTITY	UOM	UNIT PRICE	AMOUNT	TAX
1	Box Inch SHIP TO: MCI Japan CERULEAN TOWER 16F CERULEAN TOWER 16F, 25-1 SAKURAGACKA-CHO, SHIBUYA-KU, Tokyo, 150 Japan	03-MAY-20 09	36674	Each	1.00	36,674.00	H

**IMPORTANT: Packing List with PO Number MUST be prominently displayed on OUTSIDE of carton for all deliveries. Failure to do so will result in payment delays.** TOTAL 36,674.00 JPY

Special Information

See Terms & Conditions - Standard  
This order is placed by Purchaser subject to Seller's assent to the terms, conditions, and instructions on the face and reverse sides hereof, and by accepting this order. To accept this order, Seller must execute the acknowledgement copy of this order and return it to Purchaser. Purchases hereby expressly object to each different of additional term inserted by Seller in the acceptance of this order. No additions or modifications hereto will be binding upon Purchaser unless agreed to in writing by a duly authorized representative of purchaser. Specifications, drawings and data submitted to Seller with this purchase order are part of this order.

Instructions to Vendor  
• Packing slip must accompany all shipments and be placed on the outside of the box.  
• Packing list and invoices must mirror purchase order.

By   
Gavin Cheng  
MasterCard International, Japan Inc.

この契約は適用されず。  
本契約は、本契約の条件  
が又は買主が買主に  
用される仕様書に明  
記、売主が買主の  
条件、本契約の  
条件とする。買主は、  
この契約として通知と  
を拒絶し、その仕様  
を以てはならぬ。  
用される仕様書は  
買主が適用され、  
適用する。  
この契約は、本工  
場の例、買主から  
買主が買主の手帳を  
用する。  
この契約は、買主  
が買主の手帳を  
用する。  
この契約は、買主  
が買主の手帳を  
用する。  
この契約は、買主  
が買主の手帳を  
用する。  
この契約は、買主  
が買主の手帳を  
用する。

本ポリシーは、MasterCard Incorporatedに帰属し、専断性及び秘密性を有する。本ポリシーは、社長（AIP Region）及び CFO の承認を得たうえで、Regional Finance Department のみが更新することができ、



# BI Publisher: Better Managed

GALLUP®

Better Managed

## Challenge

- Over 200 Crystal Reports
- Cumbersome report repository frustrated users and IT staff
- Duplicate reports with minor layout changes and to support multi-language

## Solution

- BI Publisher's separation of 3 Layers (Data, Layout & Translation)
- 3 days and 1 person to implement POs

## Benefits

- Now only 30 Publisher reports (85% reduction)
- 3 months w/ one f/t report developer
- End Users and IT staff very happy

The screenshot shows a Gallup survey titled 'Avaliação do Seminário' (Seminar Evaluation) with questions about the user's experience and recommendations. Below the survey is a Gantt chart showing the project schedule for 'Open World 2009' from January to May 2009.

**Survey Questions:**

- Classifique as seguintes afirmações, usando uma em que 1 significa Discordo totalmente e 5 significa Concordo totalmente.
  - a. Usarei em meu trabalho o que aprendi neste seminário.
  - b. Recomendaria este seminário a outras pessoas.
- Classifique as seguintes afirmações, usando uma em que 1 significa Baixa e 5 significa Alta.
  - a. Como você classificaria Smith, John
  - b. Como você classificaria Smith, Mike
  - c. Como você classificaria Smith, Scott
  - d. Como você classificaria Smith, Jim
  - e. Como você classificaria Smith, Joan
  - f. Como você classificaria Smith, Mike
  - g. Como você classificaria Smith, Scott

**Gantt Chart Data:**

Task Name	Scheduled Start	Scheduled Finish	January	February	March	April	May
Open World 2009	01-Jan-09	11-Oct-09	█	█	█	█	█
Conference Planning	01-May-09	30-Sept-09				█	█
Schedule Presenters	01-Sept-09	10-Oct-09				█	█
Book Venues	24-Feb-09	10-Mar-09	█	█			
Print Media	12-Sept-09	20-Sept-09				█	
Send Out Conference Agenda	01-Oct-09	01-Oct-09					█

# BI Publisher: Faster

Faster

## Challenge

- Generates 100,000 Enrollment Forms in 48 hours
- .NET server taking 24 hrs to generate 4,000 Forms
- 24 .NET servers & 15 people to monitor and resubmit failures

## Solution

- High performance of BI Publisher reports
- Scalable Enterprise Server Architecture

## Benefits

- Now generates 100,000 Forms in 3 hours
- 1 BI Publisher Server, 2 .NET
- 8 X Faster
- 1 / 8 Fewer no. of Servers





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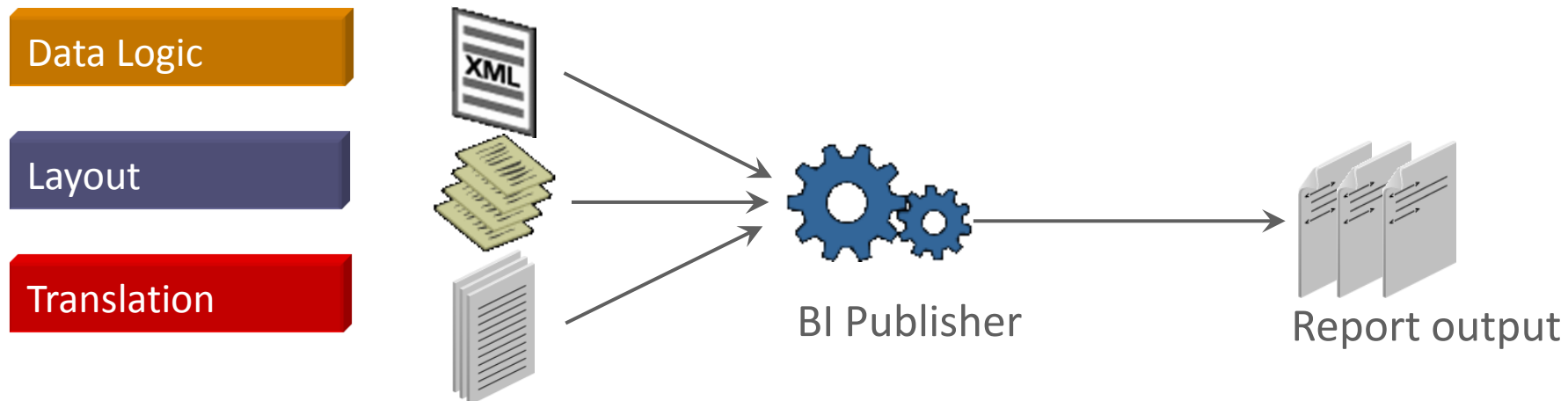
# BI Publisher Best Practices

# BI Publisher Best Practices

## Separate data logic, layout & translation benefits

- Benefits

- Greater flexibility and reuse
- Fewer reports and better report maintenance
- Optimize data extraction and document generation process



# BI Publisher Best Practices

## BI Publisher Sizing

### Sizing Questionnaire Portal

- Log on to Sizing Questionnaire Portal using URL:

[https://apex.oracle.com/pls/apex/f?p=ORACLESIZINGTOOL\\_WW:UPD](https://apex.oracle.com/pls/apex/f?p=ORACLESIZINGTOOL_WW:UPD)

- Follow the steps:

- STEP 1: Request one or more sizing questionnaires using the form.
- STEP 2: When you receive our email(s) with your questionnaire, follow the included instructions to complete the sizing exercise.
- STEP 3: An Oracle representative will contact you to discuss the results.



The first step to any Oracle implementation is to understand the hardware requirements for development, testing and production. Oracle can help you determine which products are best suited for your current application needs as well as accounting for future growth. With dedicated engineering resources, Oracle can help properly size your infrastructure and implementation needs.

To initiate a sizing discussion, use the following steps to help Oracle better understand your requirements.

STEP 1: Request one or more sizing questionnaires using the form below.

STEP 2: When you receive our email(s) with your questionnaire, follow the included instructions to complete the sizing exercise.

STEP 3: An Oracle representative will contact you to discuss the results.

#### New Customer Sizing

##### AIA

Oracle Application Integration Architecture (AIA) delivers pre-built content, templates and... [read more](#)

##### BI Publisher

Oracle BI Publisher is the reporting solution to author, manage, and deliver all your reports and... [read more](#)

##### BI on Exalytics

Oracle Business Intelligence Enterprise Edition 11g (OBIEE) is a comprehensive business... [read more](#)

##### Big Data

Oracle provides the industry's most comprehensive, integrated set of products designed to help you... [read more](#)

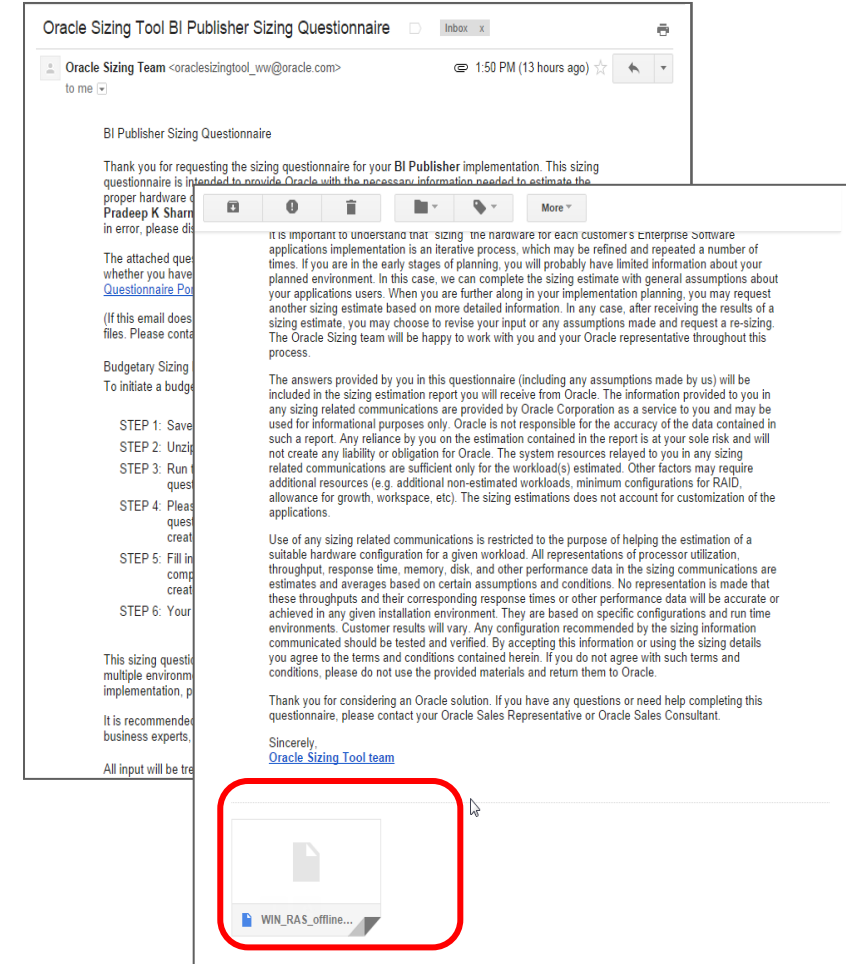
##### Coherence

# BI Publisher Best Practices

## BI Publisher Sizing

### Sizing Email with Attachment

- STEP 1: Save the attachment to your hard drive and rename the extension from ".zippy" to ".zip".
- STEP 2: Unzip the file. It will create a new directory with the questionnaire.
- STEP 3: Run the flash client executable (.exe for Windows or .app for Mac) to open up the sizing questionnaire client.
- STEP 4: Fill out this questionnaire as completely as possible.



# BI Publisher Best Practices

## BI Publisher Sizing

### Send Email

- STEP 5: Fill in your Oracle Sales representative (with correct email address) and click the Email button. A completed email will be created in your default email client, simply send the email as created.
- STEP 6: Your Oracle representative will contact you to discuss the results.

Version 20140729

#### Question Tree Navigation

- ✓ Select BIP Use Case Scenario
  - ↳ Concurrent Usage \*
    - ✓ Number of users with small report (2 Pages)
      - ↳ 15000
    - ✓ Number of users with medium report (25 pages)
      - ↳ 500
    - ✓ Number of users with large report (over 100 Pages)
      - ↳ 50
    - ✓ Number of users with extremely large report (100,000 rows and more)
      - ↳ 5

#### Number of users with extremely large report (100,000 rows and more)

5

0 100000

Set exact value to

\* Default = 1

#### Reference Architecture Sizing Tool

To submit your answers to the Oracle Sizing Tool:

1. Enter your Oracle contact's email address or a drop box name provided by Oracle.
2. Optionally specify the name of an existing or new sizing name to identify these answers.
3. Click the button below to launch your email client, e.g., Outlook, to submit your answers.
4. Click "Send" without making any changes to the message body.

**Note:** For Apple users, Safari must be the default browser

<b>Oracle email address or drop box name*</b>	<b>Sizing engagement name*</b>
<input type="text" value="pradeep.k.sharma@oracle.com"/>	<input type="text" value="Test Customer"/>

\* Required Field

Show XML

# BI Publisher Best Practices

## BI Publisher Sizing

### Concurrent Usage

#### 1 Description

- Users viewing reports online
- Scheduled Jobs running at the same time

#### 2 Factors to Consider

- Number of users viewing Small, Medium, Large, XLarge reports
- Number of CPUs /server

### Bursting Usage

#### 1 Description

- Bursting reports

#### 2 Factors to Consider

- Total Number of reports
- Time window
- % of Small, Medium, Large reports
- Number of CPUs/Server

# BI Publisher Best Practices

## BI Publisher Sizing

- My Oracle Support – Note 948841.1

Oracle BI Publisher Sizing Guide			
Please Refer to Instruction Sheet for more Information			
SIZING BASED ON CONCURRENT USAGE		SIZING BASED ON BURSTING USAGE	
Sizing Data Input		Sizing Data Input	
Number of users viewing small report ( ~ 2 Pages)	1500	Total Number of Reports	1000
Number of users viewing medium report ( ~ 25 pages)	200	Time to Generate Reports	30 Minutes
Number of users viewing large report ( > 100 pages)	Not Available		
Number of users viewing extremely large report (> 10,000 rows)*	1	Report Distribution By Size	
			Distribution(%)
		Small reports ( ~ 10 pages)	30%
		Medium reports ( ~50 pages)	40%
		Large reports ( > 100 pages)	30%
Total % CPU	283.25	Total % CPU	79.74
Total Number of CPUs/Server	2		2
Estimated % of CPU Usage (Production Machine)	354.06	Estimated % of CPU Usage (Production Machine)	99.68
Recommended Number of CPU	4	Recommended Number of CPU	1
Total Number of CPUs/Server			
<b>Recommended Number of Servers</b>	<b>2</b>	<b>Recommended Number of Servers</b>	<b>1</b>
<b>Server(s) Utilization</b>	<b>88.51</b>	<b>Server(s) Utilization</b>	<b>49.84</b>

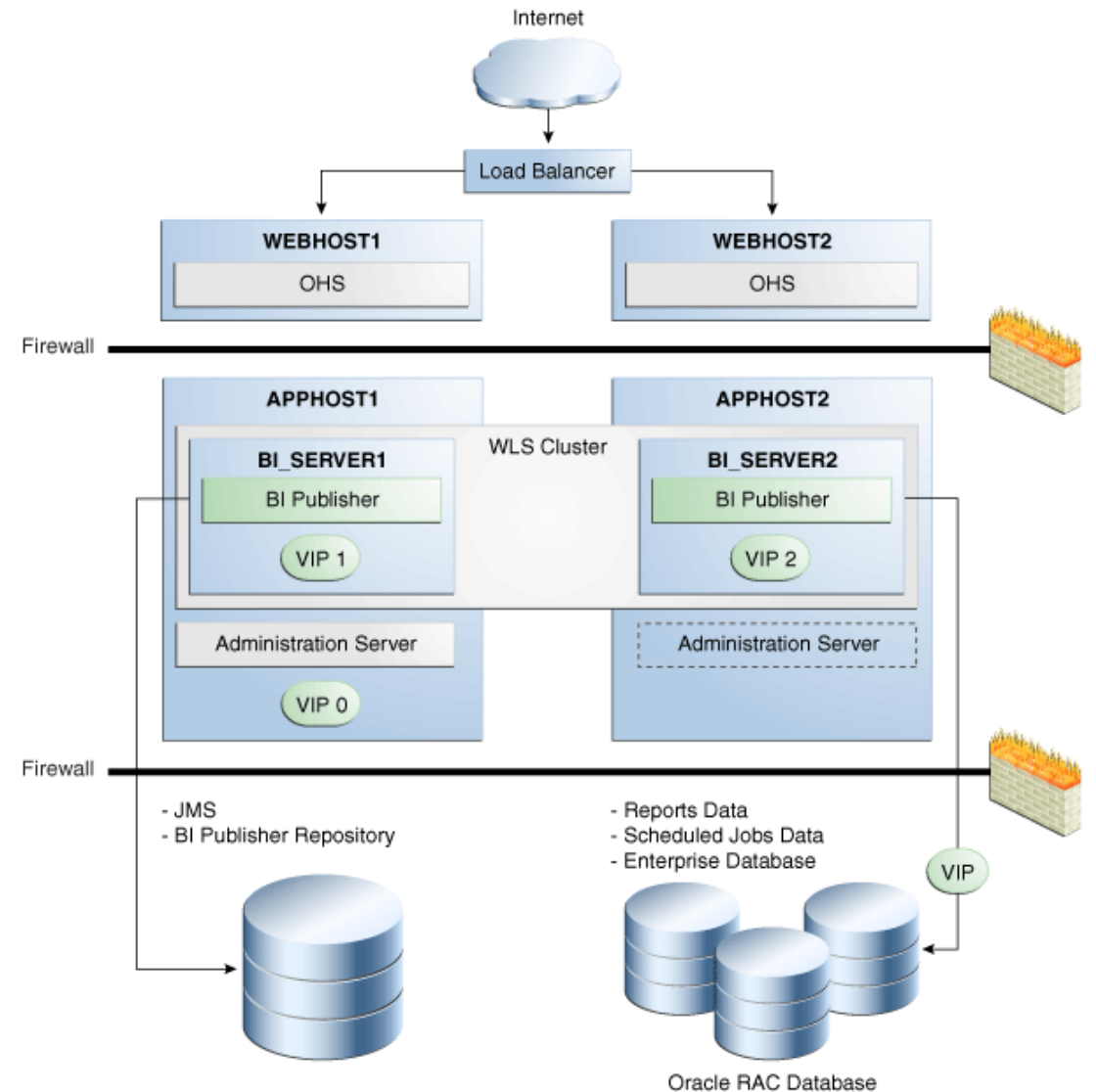


# BI Publisher Best Practices

## High Availability Architecture

- When BI Publisher Enterprise is Deployed as Standalone
  - Oracle BI Publisher supports an active-active high availability configuration.
  - Each node acts as an independent server that shares a common repository and the scheduler database with the other Oracle BI Publisher nodes.

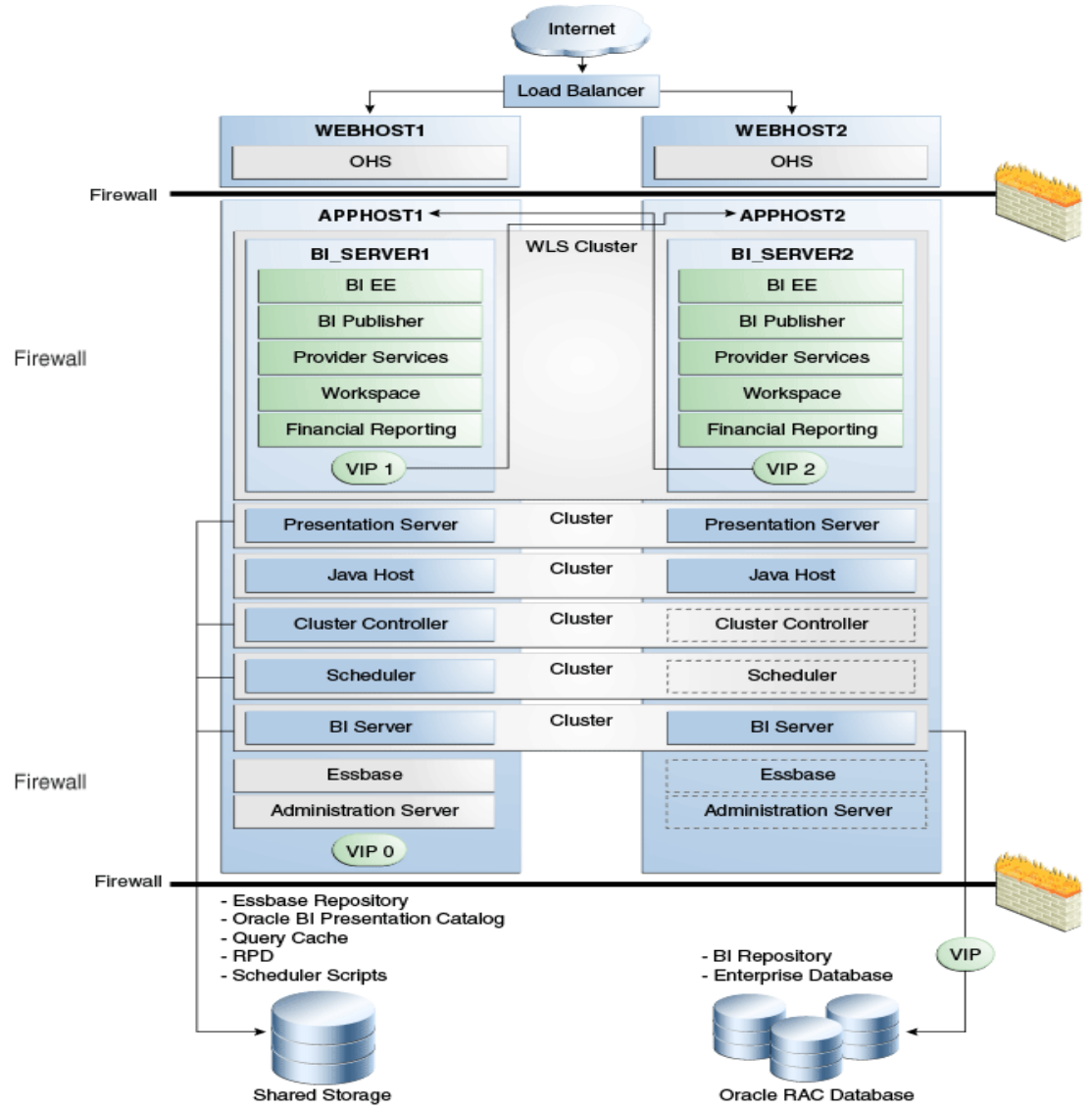
Refer to Oracle® Fusion Middleware High Availability Guide 11g Release 1 (11.1.1)



# BI Publisher Best Practices

## High Availability Architecture

- When BI Publisher is deployed along with OBIEE and other products in BI Suite.

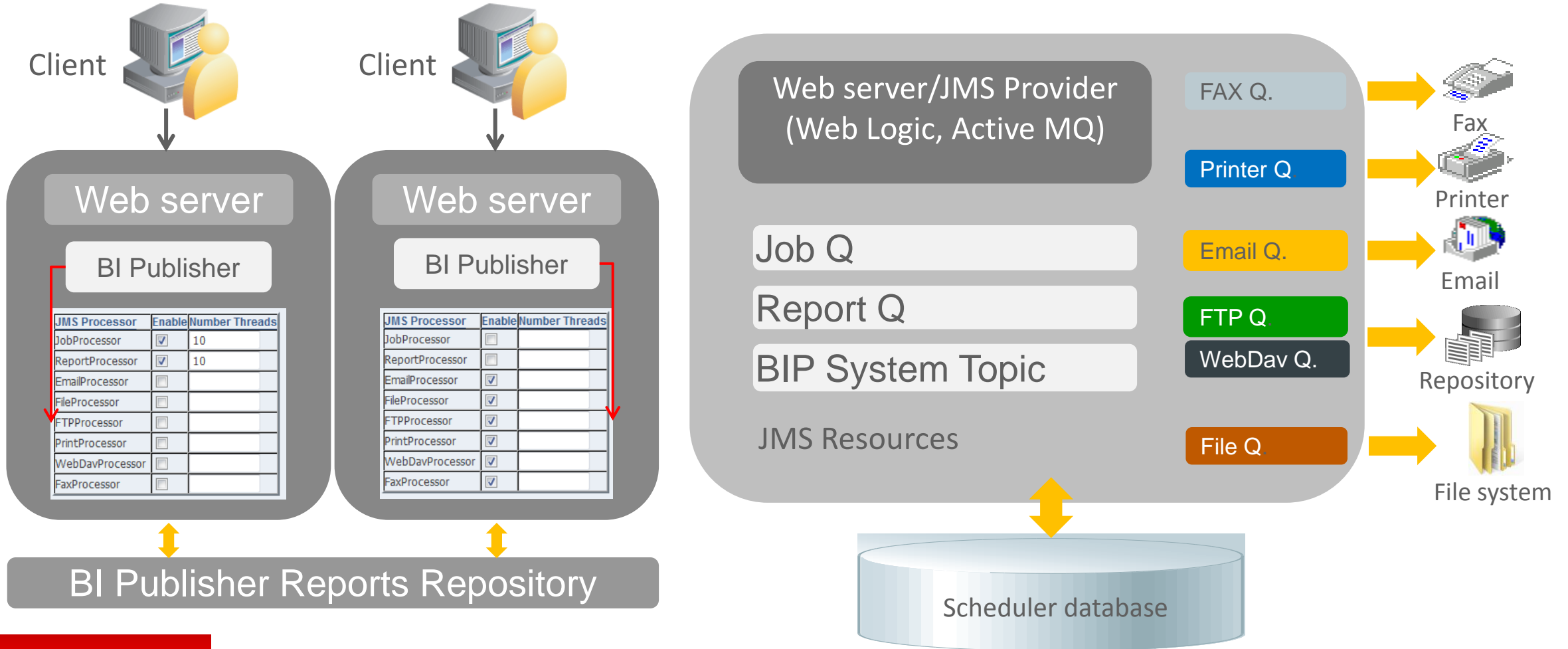


Refer to Oracle® Fusion Middleware High Availability Guide 11g Release 1 (11.1.1)



# BI Publisher Best Practices

## Scheduler Architecture



# Program Agenda

- 1 Oracle BI Publisher Overview
- 2 Easier, Better Managed & Faster
- 3 BI Publisher Best Practices
- 4 Data Model Design Best Practices**
- 5 Layout Design Best Practices

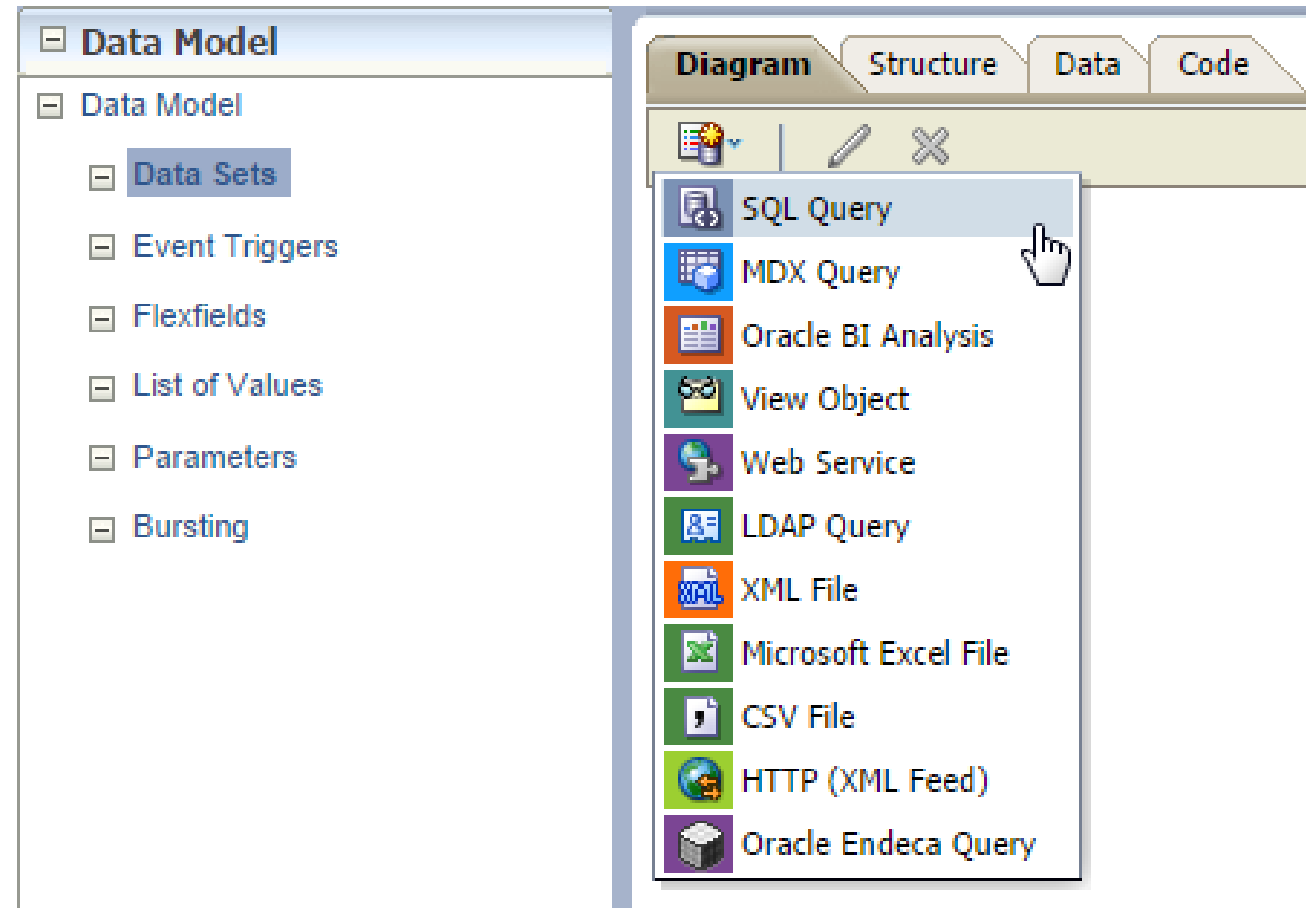


# Data Model Design Best Practices

# Data Model Design Best Practices

## Data Source Types

- SQL Query
- MDX Query
- Oracle BI Analysis
- View Object
- Web Service
- LDAP Query
- XML File
- Microsoft Excel File
- CSV File
- HTTP (XML Feed)
- Oracle Endeca Query



# Data Model Design Best Practices

## JDBC vs JNDI to Connect to Database

- Both types of connection use the same JDBC driver
- With JNDI you can take advantage of connection pooling
  - Better performance
    - Connection already established to the source
    - **Best practice** for reports with many parameters with SQL type LOVs attached to them
  - Better RDBMS resource management

The screenshot shows the 'Data Sources' configuration page in the WebLogic Server Administration Console. On the left, a tree view shows 'Data Sources' selected under 'Services'. A red box highlights 'Data Sources' in the tree, with a red arrow pointing to the table. The table, titled 'Data Sources (Filtered - More Columns Exist)', has columns for 'Name', 'Type', and 'JNDI Name'. The 'bip\_datasource' entry is highlighted with a red box. Below the table, a yellow circle with the number '1' is visible. The text 'WebLogic Server' is also present.

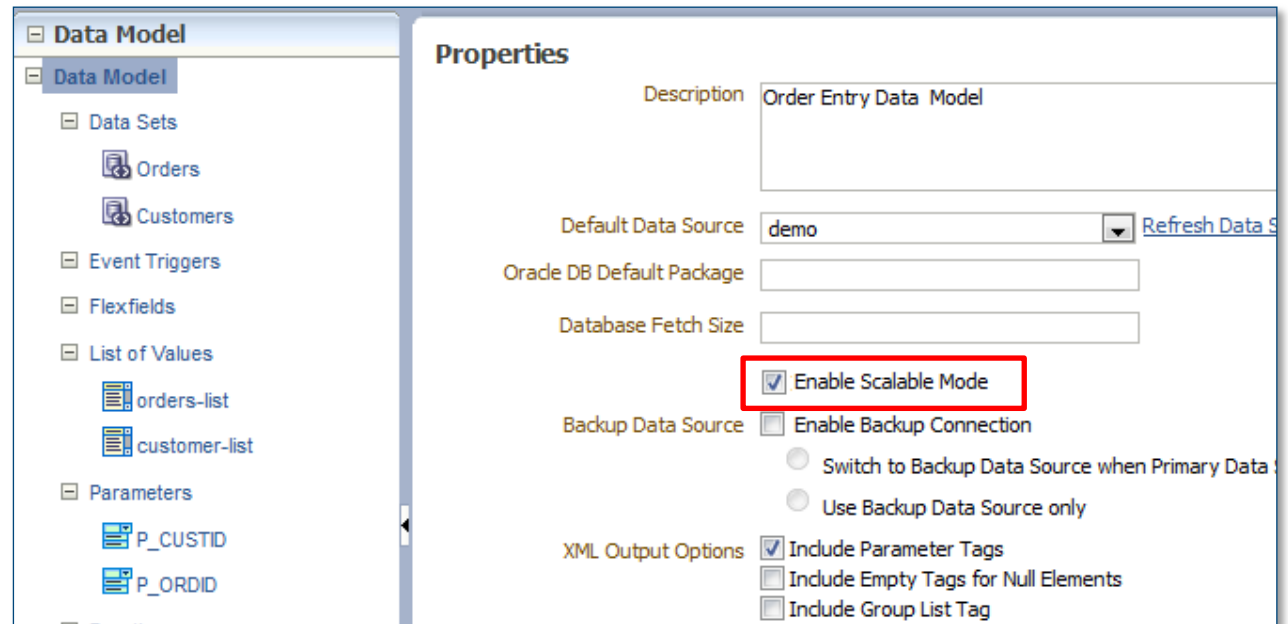
Name	Type	JNDI Name
bip_datasource	Generic	jdbc/bip_datasource
EPMSysRegistry	Generic	jdbc/EPMSysRegistry
mds-owsm	Generic	jdbc/mds/owsm

The screenshot shows the 'General' tab of the 'Data Source' configuration page. A yellow circle with the number '2' is placed over the 'Data Source Name' field. The 'Data Source Name' is 'XDO-PM (JNDI)' and the '\* JNDI Name' is 'jdbc/bip\_datasource'. There are fields for 'Pre Process Function' and 'Post Process Function'. A checkbox for 'Use Proxy Authentication' is present, and a 'Test Connection' button is at the bottom. To the right, a 'Data Sources' legend lists connection types: JDBC Connection, JNDI Connection, File, LDAP Connection, and OLAP Connection.

# Data Model Design Best Practices

## Enable Scalable Mode

- Enable for large reports
  - Slower performance, but prevents out-of-memory errors
  - Use with scheduled reports



The screenshot shows the Oracle BI Desktop interface. On the left, the 'Data Model' tree is expanded to show 'Data Model' with sub-items: Data Sets (Orders, Customers), Event Triggers, Flexfields, List of Values (orders-list, customer-list), and Parameters (P\_CUSTID, P\_ORDID). On the right, the 'Properties' dialog is open for the 'Order Entry Data Model'. The 'Description' field contains 'Order Entry Data Model'. The 'Default Data Source' is set to 'demo'. The 'Oracle DB Default Package' and 'Database Fetch Size' fields are empty. The 'Enable Scalable Mode' checkbox is checked and highlighted with a red box. Other options include 'Enable Backup Connection' (unchecked), 'XML Output Options' (Include Parameter Tags checked, Include Empty Tags for Null Elements unchecked, Include Group List Tag unchecked).



# Data Model Design Best Practices

## Leverage Database Capabilities

- Leverage back-end system resources (whenever possible)
  - Join data
  - Filter & group data
  - Perform expensive calculations & data transformations
  - Sort data

```
Select
  t."OFFICE_DSC" as "Office"
  sum(f."REVENUE") as "Sales Sum"
From
  "BISAMPLE"."SAMP_REVENUE_F" f
  "BISAMPLE"."SAMP_OFFICES_D" t
Where
  t."OFFICE_KEY"=f."OFFICE_KEY"
group by
  t."OFFICE_DSC"
```

**20 Vs 20,000 records**

# Data Model Design Best Practices

## Report Data & LOV Caching

- Report Data Cache
- LOV Parameter Cache

**Report Properties**

General **Caching** Formatting Font Mapping Currency Format

Enable Data Caching

Caching Duration (minutes) false

User Level

Document Caching

User Can Refresh Report Data

**List of Values**

+ X

*Name	Type	Data Source
orders-list	SQL Query	demo
customer-list	SQL Query	demo

**orders-list: Type: SQL Query**

Options  Cache Result

SQL Query

```
select "ORDERS_VIEW"."ORDER_ID" as "ORDER_ID"
from "OE"."ORDERS_VIEW" "ORDERS_VIEW"
where "ORDERS_VIEW"."CUSTOMER_ID" IN (:P_CUSTID)
```

# Data Model Design Best Practices

## Pass Null Value when User selects “All” in LOV

- For large LOVs, pass **NULL** to the parameter when users select **All** & modify WHERE clause in Data Set query to use the NVL function.

For example:

```
"Where order_id=nvl(:p_orcid,  
order_id)"
```

The screenshot shows the Oracle APEX Parameters configuration interface. At the top, there is a table with the following columns: #Name, Data Type, Default Value, and Parameter Type. The table contains two rows: P\_CUSTID (String, 109, Menu) and P\_ORDID (String, , Menu). Below the table, the configuration for P\_ORDID is shown. The parameter type is Menu. The Display Label is 'Order Number(s):'. The List of Values is 'orders-list'. The Options section includes 'Multiple Selection' (checked), 'Can select all' (checked), 'NULL Value Passed' (selected), 'All Values Passed' (unselected), and 'Refresh other parameters on change' (unchecked). A red box highlights the 'Can select all' and 'NULL Value Passed' options.

#Name	Data Type	Default Value	Parameter Type
P_CUSTID	String	109	Menu
P_ORDID	String		Menu

**P\_ORDID: Type: Menu**

Display Label: Order Number(s):

List of Values: orders-list

Options:  Multiple Selection

Can select all

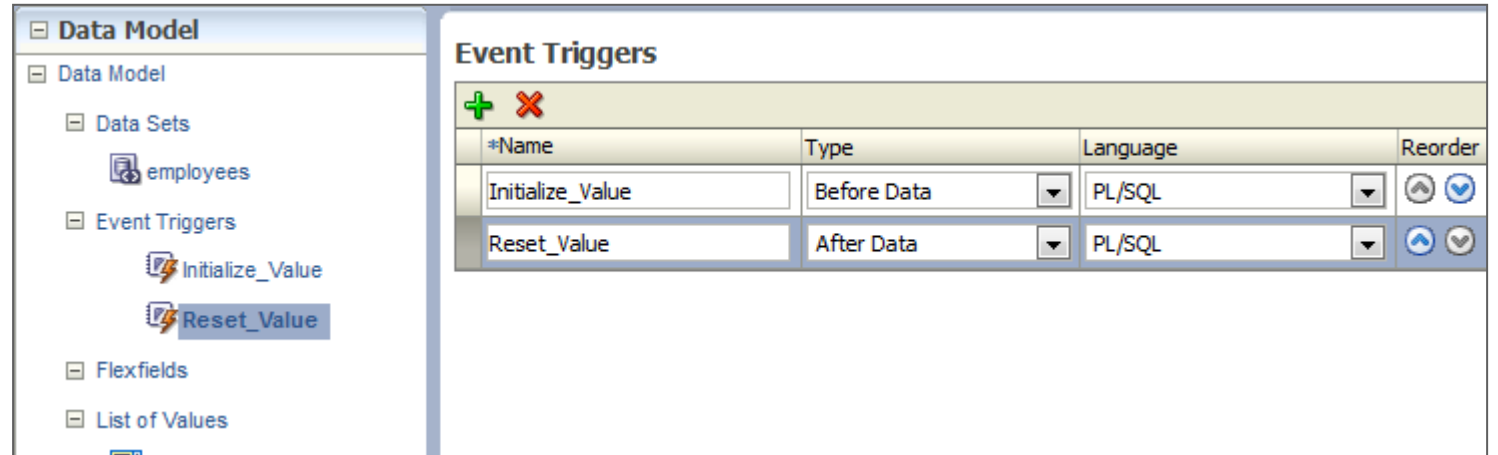
NULL Value Passed  All Values Passed

Refresh other parameters on change

# Data Model Design Best Practices

## Data Triggers

- Before Data Triggers
  - Generate dynamic SQL
  - Populate TEMP tables
  - Set user context
- After Data Triggers
  - Insert rows to a target table
  - Send notifications
  - Clean or delete TEMP tables



The screenshot shows the Oracle Data Model Designer interface. On the left, a tree view shows the 'Data Model' structure with 'Event Triggers' expanded to show 'Initialize\_Value' and 'Reset\_Value'. On the right, the 'Event Triggers' table is displayed with the following data:

*Name	Type	Language	Reorder
Initialize_Value	Before Data	PL/SQL	⬆️ ⬇️
Reset_Value	After Data	PL/SQL	⬆️ ⬇️

```
Select EMPLOYEE_ID,  
       DEPARTMENT_ID,  
       FIRST_NAME,  
       LAST_NAME,  
       EMAIL,  
       PHONE_NUMBER,  
       HIRE_DATE,  
       JOB_ID,  
       SALARY  
  
from employees  
where &p_where_clause
```

# Data Model Design Best Practices

## Schedule Trigger

- Data Model Designer creates Data Model with schedule trigger
- Triggers can be created and shared from a single data model
- Users create scheduled jobs and determine window of time to check for condition
- Reports execute when condition is true or are skipped

**ORACLE BI Publisher Enterprise** Search: All Administration Help Sign Out

**Schedule Report Job** Home Catalog New Open Signed In As weblogi

**Overview** General Created by weblogic Outputs Output1 Return Submit

Report Name /Users/Nikos/11.1.1.7.0 Features/Schedule Report Trigger Example.xdo Destination

Schedule Start on Aug 15, 2012 3:11:38 AM Recur Hourly Notification

General Output **Schedule** Notification

**Define Schedule Time**

Frequency Hourly/Minute

Every  12 Hour(s)  Minute(s)

Start Aug 15, 2012 3:11:38 AM

End Aug 20, 2012 2:11:38 AM

**Define Schedule Trigger**

Use Trigger

A schedule trigger allows you to conditionally execute an occurrence of a job. When the schedule time occurs, the schedule trigger is checked. If the schedule trigger returns data, the job will proceed. If no data is returned the occurrence of that job is skipped.

Retry Limit 11

Pause Time 60 Minute(s)

Data Model  Use Data Model specified in the report

Trigger Sch\_trigger

**Parameters**

**VALUE:** Users can schedule reports to execute based on an event or condition over a window of time.

# Data Model Design Best Practices

## Data Structure

- Structure data for the report
- Use short XML tag names
- Use display names
- Create global & group-level aggregate functions
- Pre-sort data (preferably at the source)

The screenshot shows the Oracle BI Foundation Demo DM.xdm interface. The left pane displays a tree view of the data model, including Data Sets (Q4 - Target Sales, Q3 - Actual Sales, Q2 - BI Server, Q1-Trns DB), Event Triggers, Flexfields, List of Values (COMPANY\_LOV, CURR\_LOV), Parameters (P\_CURRENCY, P\_COMPANY), and Bursting. The main pane shows the 'Table View | Output' for the 'Q2 - BI Server' data set. The table below is a summary of the data structure, mapping internal XML tags to business display names and data types.

Data Source	XML Tag Name	Sorting	Value If Null	Display Name	Data Type
Report Data					
Data Structure					
Q2 - BI Server					
abc D1 OFFICE	OFFICE			Office	abc
abc D2 DEPARTMENT	DEPT			Department	abc
abc D3 ORGANIZATION	ORG			Organization	abc
abc D4 COMPANY	COMPANY			Company	abc
99E 1- REVENUE	REVENUE			Revenue	99E
999 2- BILLED QUANTITY	BILLED_QUANTITY			Billed Quantity	999
99E 4- PAID AMOUNT	PAID_AMOUNT			Paid Amount	99E
99E 5- TARGET REVENUE	TARGET_REVENUE			Target Revenue	99E
abc R3 ORDER CURRENCY	ORDER_CURRENCY			Order Currency	abc
f DISCOUNT	DISCOUNT			Discounted Amount	99E
Q1-Trns DB					
abc PROD_DSC	PROD_DSC			Product Name	abc
abc TYPE	TYPE			Product Type	abc
abc LOB	LOB			Product LOB	abc
abc BRAND	BRAND			Product Brand	abc
abc OFFICE_DSC	OFFICE_DSC			Office Name	abc
abc COMPANY	COMPANY			Company	abc
abc ORGANIZATION	ORGANIZATION			Organization	abc

# Program Agenda

- 1 Oracle BI Publisher Overview
- 2 Easier, Better Managed & Faster
- 3 BI Publisher Best Practices
- 4 Data Model Design Best Practices
- 5 Layout Design Best Practices



# Layout Design Best Practices



# Layout Design Best Practices

## Choose the right Template Type

<b>BI Publisher Template</b>	<ul style="list-style-type: none"><li>• Web based Layout Editor – no client installation required</li><li>• Best for Management Report – WYSIWIG experience</li><li>• Interactive Output</li><li>• Wide range of output (PDF, HTML, Excel, PPT, RTF, MHTML)</li></ul>
<b>RTF Templates</b>	<ul style="list-style-type: none"><li>• Easy to create using Template Builder MS Word Add-in</li><li>• Extensible to use XSL code syntax within BI Publisher Code Syntax</li><li>• Wide range of output (PDF, HTML, Excel, PPT, RTF, MHTML)</li></ul>
<b>Excel Templates</b>	<ul style="list-style-type: none"><li>• Excel w/ data mapped to named cells &amp; Excel and XSL formatting</li><li>• Great for formatted, true Excel output and burst over sheets</li><li>• Only XLS output</li></ul>

# Layout Design Best Practices

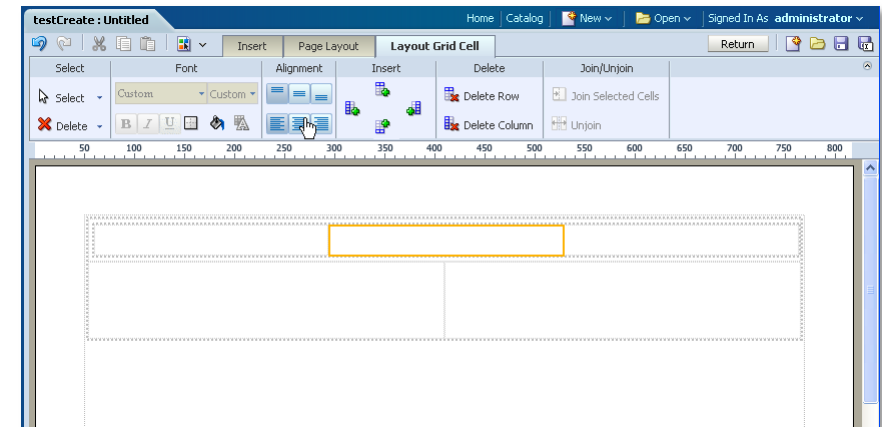
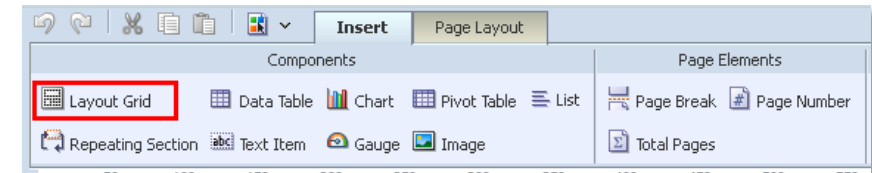
## Choose the right Template Type

<b>PDF Templates</b>	<ul style="list-style-type: none"><li>• PDF forms with XML elements mapped to form fields.</li><li>• Directly use Government Forms as Template</li><li>• PDF output only</li><li>• Use Acrobat Professional to Create/Edit Template</li></ul>
<b>e-Text Templates</b>	<ul style="list-style-type: none"><li>• Text output only – for electronic communication</li><li>• Great for character delimited or fixed position docs (EFT &amp; EDI)</li><li>• RTF with table of statements to place fields and separators</li></ul>
<b>Flash Templates</b>	<ul style="list-style-type: none"><li>• SWF files with BI Publisher data – for sophisticated interactivity</li><li>• Create in Adobe Flex Builder</li></ul>
<b>XSL Style Sheets</b>	<ul style="list-style-type: none"><li>• Allows for third party tools and legacy solutions</li></ul>

# Layout Design Best Practices

## BI Publisher Template

- Use Layout Grids to position components – similar to tables in RTF Templates
- Layout Grids can be nested
- Layout Grid Cell can be joined
- The minimum height of rows can be fixed
- DO NOT put **LARGE** tables or pivot tables into Layout Grids (Performance!)



# Layout Design Best Practices

## BI Publisher Template

- The Interactive Viewer is one of BI Publisher's most promising new features
- Interactivity works best for flat tables or simple nested master-detail data sets
- Unrelated queries or groups can not interact
  - Disable interactions for unrelated queries in the **Configure Events** Dialog

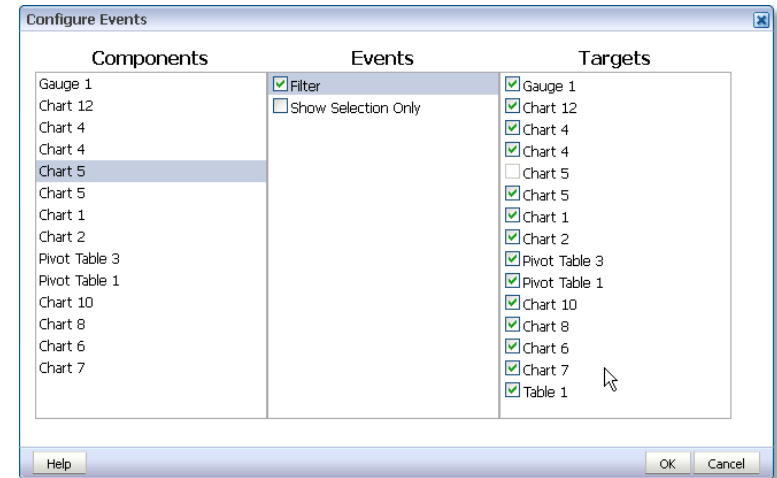
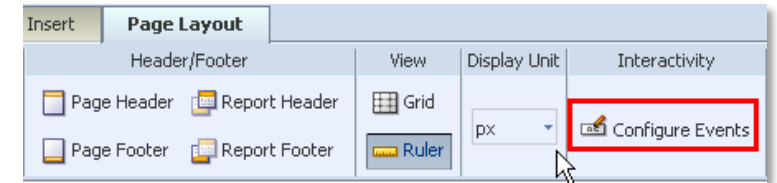
### **BAD:** Country on two branches

```
Data
  G1
    Country
    Revenue
  G2
    Country
    Cost
```



### **GOOD:** Country in common parent

```
Data
  G1
    Country
  G2
    Revenue
  G3
    Cost
```



# Layout Design Best Practices

## RTF Template

- Use tables to control precisely where field data will be placed in the report

Grp:Supplier

<b>Supplier</b>	Supplier 1				
<b>Address</b>	1 Long Avenue				
<b>Invoice Number</b>	<b>Invoice Date</b>	<b>Currency</b>	<b>GL Date</b>	<b>Entered Amount</b>	<b>Accounted Amount</b>
Grp:Invoice1134922	01-Jan-2007	USD	01-Jan-2007	\$100.00	\$100.00End Invoice
<b>Total for Supplier: Supplier 1</b>				\$100.00	\$100.00

End Supplier

### Invoice Tax Summary

<b>Tax Code</b>	<b>Entered Amt</b>	<b>Accounted Amt</b>
Grp:TaxVAT 17.5%	\$100.00	\$100.00End Tax
<b>Report Total</b>	\$100.00	\$100.00

# Layout Design Best Practices

## RTF Template

- Use Form Fields
  - Keep the template clean
  - Supported by the Template Builder Field Browser
  - Can be colored or hidden to help understand the structure
  - Caveat: Word header & footer don't allow form fields

Invoice Number	Date
<?for- each:G_INVOICES?> TRX_NUMBER	TRANSACTION_DATE

Invoice Number	Date
F TRX_NUMBER	TRANSACTION_DATE

Find  Find Next

Text	Code
COUNTRY	<?COUNTRY?>
AS_OF_DATE	<?AS_OF_DATE?>
TRX_CURRENCY_CODE	<?TRX_CURRENCY_CODE?>
CF_INV_BAL_DISPLAY	<?CF_INV_BAL_DISPLAY?>
F	<?for-each:G_INVOICES?>
TRX_NUMBER	<?TRX_NUMBER?>
TRANSACTION_DATE	<?TRANSACTION_DATE?>
1,000.00	<?TRANS_AMOUNT?>
500.00	<?TRANS_AMOUNT_REMAINING?>
E	<?end for-each?>

Edit

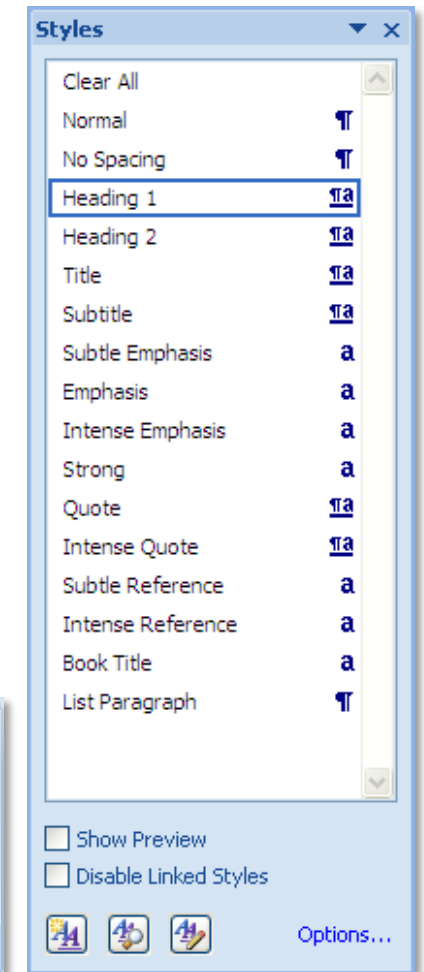
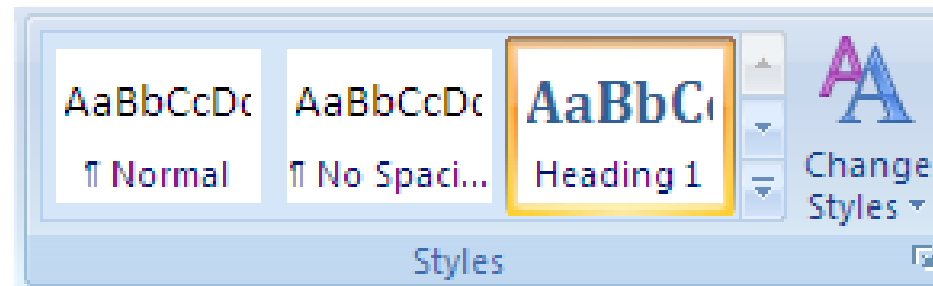
<?for-each:G\_INVOICES?>

Update Refresh Show All Close Help

# Layout Design Best Practices

## RTF Template

- Use Style Templates
  - Achieve consistency in the template and between templates
  - In 11g use Style Templates to control the template styles



# Layout Design Best Practices

## RTF Template

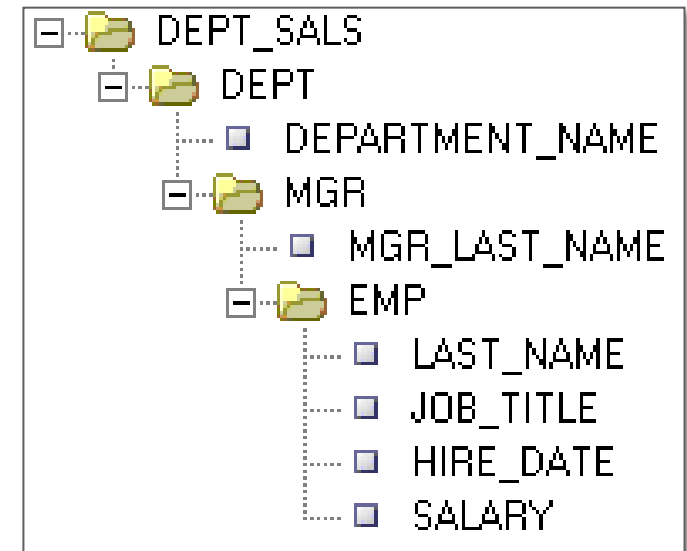
- Do Not Over Complicate your Layout Template Design
  - Keep it easy to understand, debug and maintain
  - In general better to have different business documents in different templates
  - Try to limit the logic in templates to simple if or loop statements
  - Use sub templates to simplify documents if necessary
  - Many calculations are better performed in the data model



# Layout Design Best Practices

## RTF Template

- Use XPATH
  - BI Publisher uses XPATH to access data elements
  - DEPARTMENT\_NAME is inserted in the template as `<?DEPARTMENT_NAME?>`
  - `<?DEPARTMENT_NAME?>` is translated to the XPATH `./DEPARTMENT_NAME`
  - `./DEPARTMENT_NAME` searches for DEPARTMENT\_NAME in the complete sub-tree starting from current context



# Layout Design Best Practices

## RTF Template

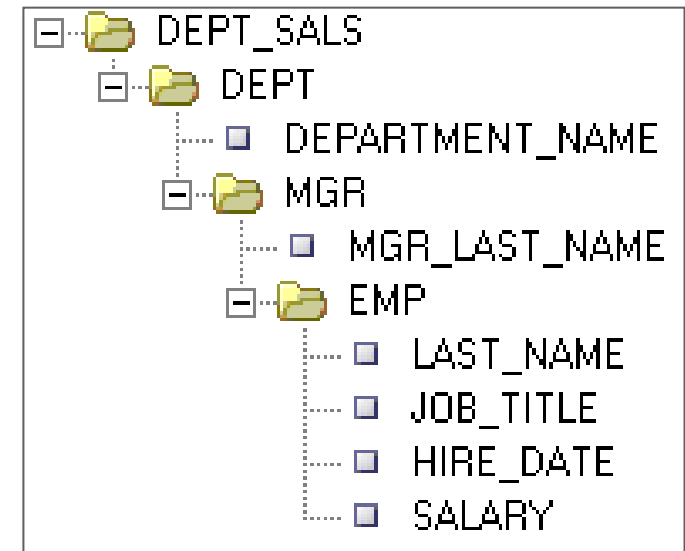
- Use XPATH

- Use the full relative path for large datasets

- Instead of `<?for-each: DEPT?>`  
use `<?for-each:/DEPT_SALS/DEPT?>`
- Instead of `<?DEPARTMENT_NAME?>`  
use `<?./DEPARTMENT_NAME?>`

- For large documents that don't fit into memory the search requires disk access

- For small documents the search time is negligible



# Layout Design Best Practices

## RTF Template

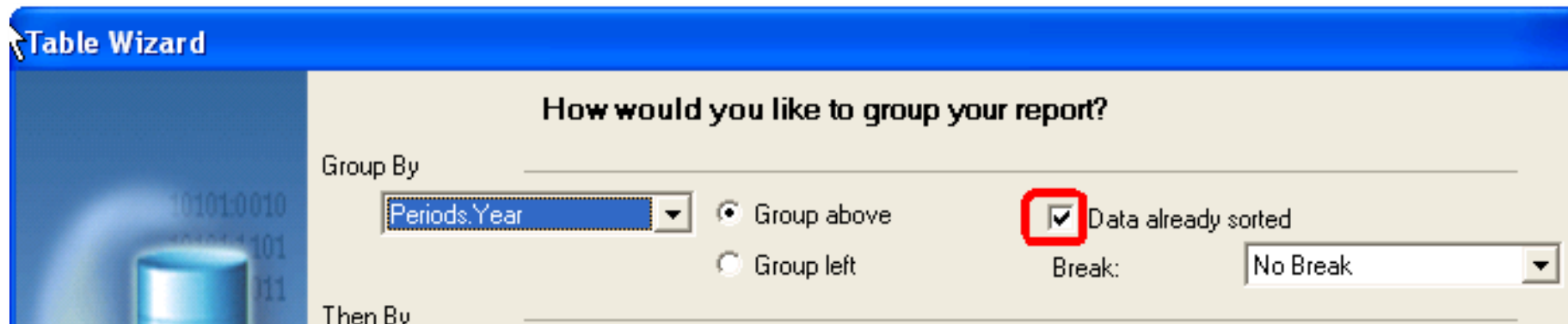
- XPATH Tuning
  - Start with the outer loops and outer most data access
  - Reducing full tree searches will provide bigger improvements than optimizing access in a small subset of the data
  - Fixing the XPATH in a single for-each loop may be all the performance tuning you need to do
- Tables
  - LARGE tables that span hundreds of pages consume considerable server resources. If possible group the data and create a table inside each grouping.
  - Do not nest LARGE tables into tables.

# Layout Design Best Practices

## RTF Template

- **Sorting & Grouping**

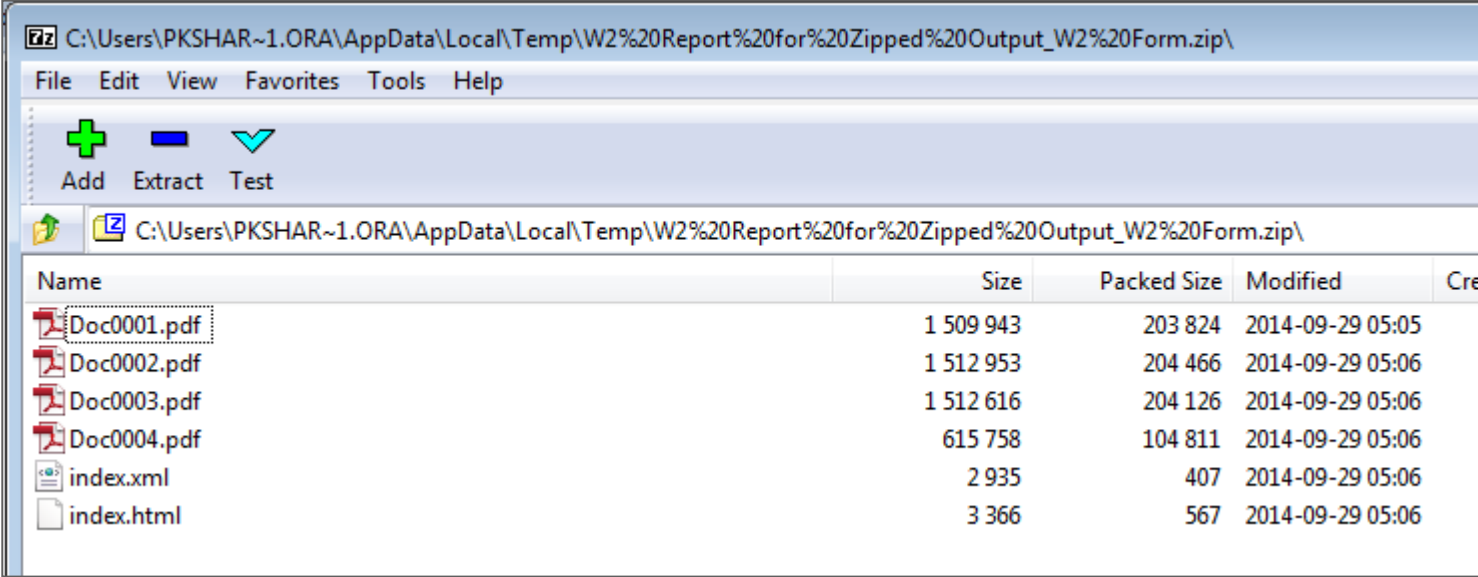
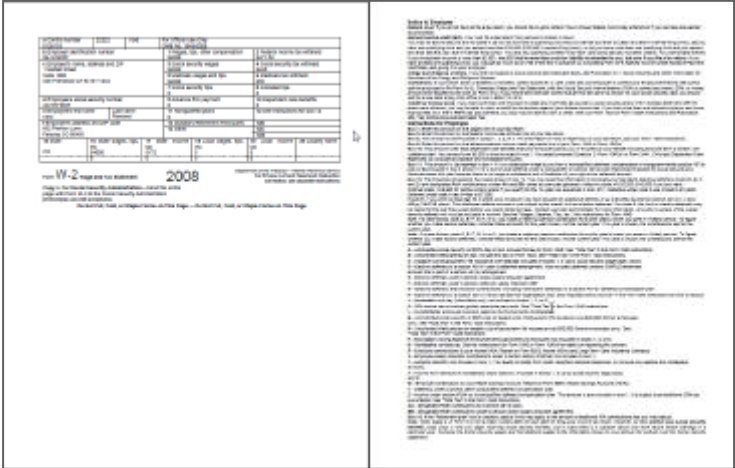
- Better to Sort data in the data model
- Group By <?for-each-group?>  
will force the XSL engine to sort data
- Checking “Data already sorted” option in the Table Wizard will not re-sort data (good thing)



# Layout Design Best Practices

## RTF Template

- Handling Large Outputs
  - Make use of “Reuse Static Content” for reports with alternate page with fine prints
  - Zipped Output format



# Relationship: Benefits vs. Risk Analysis

## Benefits

### 1 Benefit here

- Details here
- Details here

### 2 Benefit here

- Details here
- Details here

### 3 Benefit here

- Details here
- Details here

## Risks

### 1 Risk here

- Details here
- Details here

### 2 Risk here

- Details here
- Details here

### 3 Risk here

- Details here
- Details here

Q

&

A

# Stay Connected with BI Publisher

**Oracle** Technology Network

<http://www.oracle.com/technetwork/middleware/bi-publisher/overview/index.html>

Oracle BI Publisher Blog

from pixel-perfect to interactive reporting...



facebook



# Appendix

# Resources

- **Certification matrix (11.1.1.x)**

System Requirements and Supported Platforms for Oracle Business Intelligence Suite Enterprise Edition 11gR1 (11.1.1.3.0-11.1.1.6.0)

<http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/bi-11gr1certmatrix-166168.html>

System Requirements and Supported Platforms for Oracle Business Intelligence Suite Enterprise Edition 11gR1 (11.1.1.7.0)

<http://www.oracle.com/technetwork/middleware/bi/bi-11gr1certmatrix-ps6-1928219.xls>

- **High availability white paper**

<http://www.oracle.com/technetwork/middleware/bi-publisher/bip-cluster-deployment-366859.pdf>

- **QUARTZ Scheduling (clustering) wiki page**

<http://wiki.opensymphony.com/display/QRTZ1/ConfigJDBCJobStoreClustering>

# BI Publisher Best Practices

## Installation Requirements

### System Requirements

- Disk Space: **20GB** or more
- Available Memory (RAM): **4GB** or more
- Temp Space: **950MB** or more
- Swap Space: **3GB** or more
- CPU: **dual-core Pentium, 1.5GHz** or greater

Oracle® Fusion Middleware Installation  
Guide for Oracle Business Intelligence  
**11g Release 1 (11.1.1)**  
Part Number E10539-02

### Database Requirements

Disk space requirements for the database containing the Oracle Business Intelligence Scheduler database tables.

- **500MB** on Oracle and Microsoft SQL Server databases for standalone and Business Intelligence applications and deployments.
- **500MB** on IBM DB2 databases for standalone deployments.

# BI Publisher Best Practices

## Recommended Configuration

- JVM settings & JDK version
  - 64 bit JVM/JDK (on a 64 bit OS)
  - JDK version 1.6 (update 2) or higher
- Memory (RAM for the JVM)
  - 8 GB on 64 bit JVM is recommended for large, high volume use
  - 2 GB on 32 bit OS suitable for small to mid volume deployments (2gb limitation for JDK on win OS)
- Storage
  - Repository: Varies. 30 GB Hard disk space (must be shared for cluster)
  - Temp Space: 20 GB (for document processing) not shared

# BI Publisher Best Practices

## Server Configuration

- Scalable threshold (in bytes)
- Cache expiration (in min)
- Cache size limit (# of datasets)
- Maximum cached reports
- Database Fetch Size

**Administration**  
Administration > Server Configuration

**Catalog**

The Catalog contains all content such as reports and data models.

Catalog Type: Oracle BI EE Catalog

Server Version: v6

Connection protocol: TCP

[Test Connection](#)

Repository: /OraBI/user\_projects/domains/bifoundation\_domain/config

[Upload to BI Presentation Catalog](#)

**Default values**

**General Properties**

System Temporary Directory	<input type="text"/>
Report Scalable Threshold	10,000,000
Database Fetch Size	300

**Caching**

Cache Expiration (minutes)	30
Cache Size Limit	1000
Maximum Cached Report Definitions	50

**Database Failover**

# BI Publisher Best Practices

## Runtime Configuration Properties

- Bursting (10g only)
  - Enable multithreading – *Default: False\**
  - Thread count – *Default: 2\**
- FO processing
  - **Use BI Publisher's XSLT processor** – *Default: True*
  - **Enable scalable feature of XSLT processor** – *Default: False\**
  - Pages cached during processing – *Default: 50*
  - **Enable multithreading** – *Default: False\**
  - **FO Parsing Buffer Size** – *Default: 1000000\**
  - **Enable XSLT runtime optimization** – *Default: True*

FO Processing		
Use BI Publisher's XSLT processor	▼	True
Enable scalable feature of XSLT processor	▼	False
Enable XSLT runtime optimization	▼	True
Enable XPATH optimization	▼	False
Pages cached during processing		50
Bidi language digit substitution type	▼	National
Disable variable header support	▼	False
Add prefix to IDs when merging FO	▼	False
Enable multithreading	▼	False
Disable external references	True ▼	True
FO Parsing Buffer Size		1000000
Enable XSLT runtime optimization for sub-template	▼	True
Enable PPTX native chart support	▼	True

# BI Publisher Best Practices

## Report Properties

The image displays two overlapping screenshots of the 'Report Properties' dialog box in Oracle BI Publisher. The left screenshot shows the 'Formatting' tab with the 'PDF Output' section expanded. The right screenshot shows the 'Formatting' tab with the 'FO Processing' section expanded, displaying a table of properties, report values, and server values.

**Report Properties (Left Screenshot):**

If the Report Value is not set then the Server Value will be used.

Properties	Report Value
<input checked="" type="checkbox"/> PDF Output	
Compress PDF output	
Hide PDF viewer's menu bars	
Hide PDF viewer's tool bars	
Replace smart quotes	
Enable PDF Security	
Open document password	
Modify permissions password	
Encryption level	
Disable document modification	
Disable printing	
Disable adding or changing comments and form fields	

**Report Properties (Right Screenshot):**

If the Report Value is not set then the Server Value will be used.

Properties	Report Value	Server Value
<input checked="" type="checkbox"/> FO Processing		
Use BI Publisher's XSLT processor		true
Enable scalable feature of XSLT processor		false
Enable XSLT runtime optimization		true
Enable XPATH optimization		false
Pages cached during processing		50
Bidi language digit substitution type		national
Disable variable header support		false
Add prefix to IDs when merging FO		false
Enable multithreading		false
Disable external references	True	true
FO Parsing Buffer Size		1000000
Enable XSLT runtime optimization for		

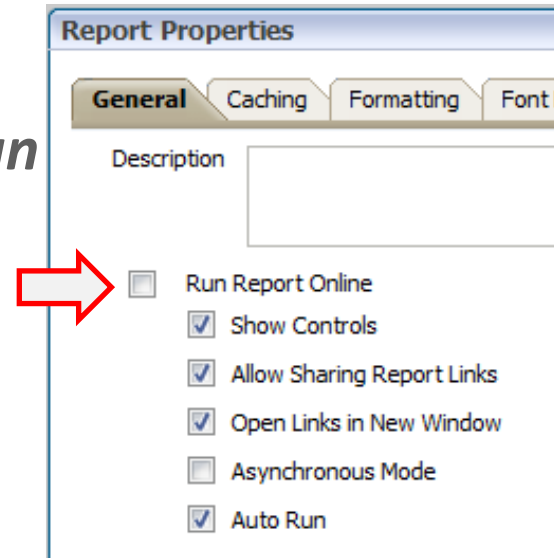


# BI Publisher Best Practices

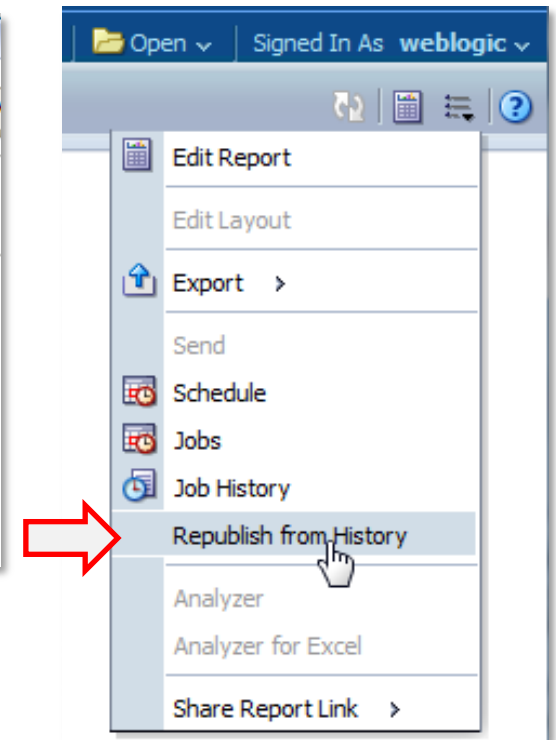
## Report Properties

- For long running reports
  - Take advantage of scheduling and disable **Run Report Online**.

Report Editor



Report Viewer





# BI Publisher Best Practices

## Caching

- **Enable Data Caching**

- Saves XML data for reuse up to the Cache Expiration threshold
- Improved performance with different template/output format
- Not recommended for real-time data

- **Enable Document Caching**

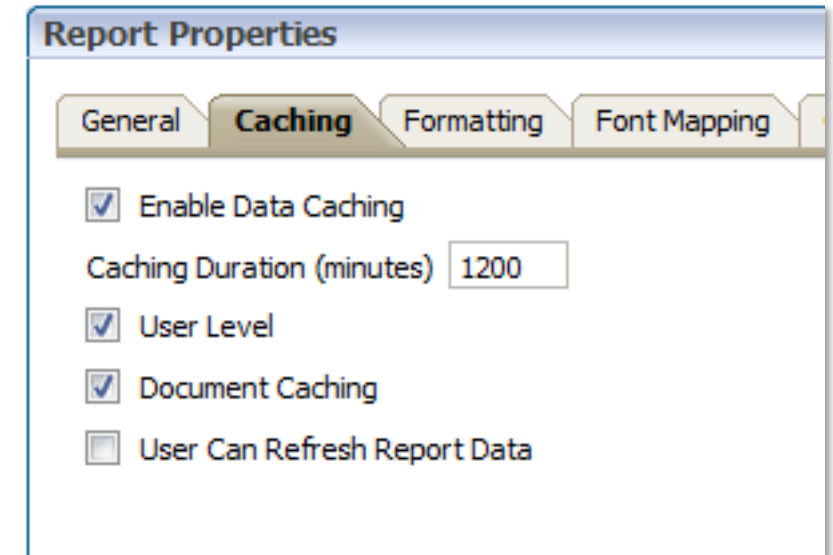
- Better performance
- Consumes more Temp storage space

- **User Level**

- Disable for better performance if data can be shared across users

- **Cache Duration**

## Report Editor



# Data Model Design Best Practices

## Element Naming

- Avoid re-using the same name for element names; it can cause confusion in template design.
  - For example, CITY under SHIPPING\_ADDRESS and BILLING\_ADDRESS. But in many cases you are better off using different names e.g. S\_CITY and B\_CITY
- For reports that generate large data sets using 2 or 3 character names for elements can have a large impact on performance and size.  
Ex: a1, a2,...

# Data Model Design Best Practices

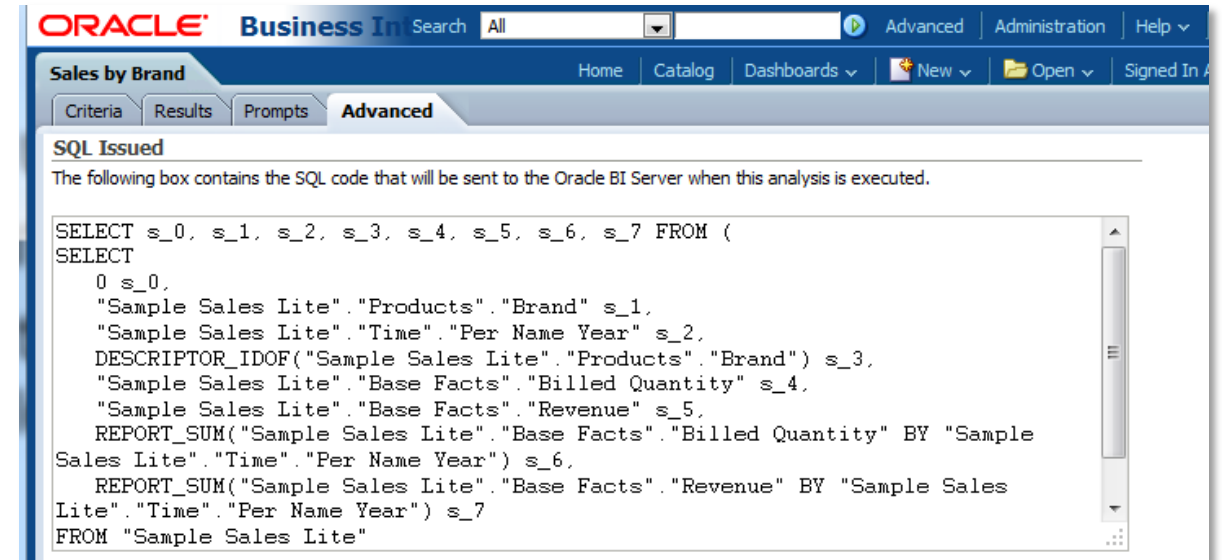
## Null Elements & XML Attributes

- Avoid generating empty tags in the XML
  - Aggregation over fields that contain empty tags **will fail** with a “not a number” exception
  - Missing fields **do not** cause an issue with XSL – for example a print statement will just return an empty string
- Avoid XML attributes
  - They are supported in both RTF & Excel templates but they add an extra layer of complexity; they are not supported in the BI Publisher Layout Editor

# Data Model Design Best Practices

## OBIEE Data Source

- If possible use SQL/JDBC against BI Server instead of using an Answers Request as a data source
  - **Tip:** Copy the SQL in an Answers Request and paste into the Query Builder text area



The screenshot shows the Oracle Business Intelligence interface. The title bar reads "ORACLE Business Intelligence Search All" with navigation links for "Advanced", "Administration", and "Help". The main window is titled "Sales by Brand" and has tabs for "Criteria", "Results", "Prompts", and "Advanced". The "Advanced" tab is active, displaying a section titled "SQL Issued". Below this title, a message states: "The following box contains the SQL code that will be sent to the Oracle BI Server when this analysis is executed." A text area contains the following SQL code:

```
SELECT s_0, s_1, s_2, s_3, s_4, s_5, s_6, s_7 FROM (  
SELECT  
  0 s_0,  
  "Sample Sales Lite"."Products"."Brand" s_1,  
  "Sample Sales Lite"."Time"."Per Name Year" s_2,  
  DESCRIPTOR_IDOF("Sample Sales Lite"."Products"."Brand") s_3,  
  "Sample Sales Lite"."Base Facts"."Billed Quantity" s_4,  
  "Sample Sales Lite"."Base Facts"."Revenue" s_5,  
  REPORT_SUM("Sample Sales Lite"."Base Facts"."Billed Quantity" BY "Sample  
Sales Lite"."Time"."Per Name Year") s_6,  
  REPORT_SUM("Sample Sales Lite"."Base Facts"."Revenue" BY "Sample Sales  
Lite"."Time"."Per Name Year") s_7  
FROM "Sample Sales Lite"
```

# Layout Design Best Practices

## Sub Templates

- What is a sub template?
  - A document that contains layout and or code that can be defined once and used multiple times
  - Multiple functions (called “templates” in XSL) or text segments can be defined in a single sub template file
- Sub template types
  - XSL sub templates for code re-use or separation
  - RTF sub templates for layout re-use
  - Caveat: Use of RTF sub templates makes it harder to understand the template structure

# Layout Design Best Practices

## Sub Templates

- RTF sub templates
  - Re-use common layouts such as terms and conditions
  - Internationalized address block
- XSL sub templates
  - Transformations for complex chart requirements
  - Dynamically apply formatting to a portion of data (e.g. sub scripting / super scripting / chemical formula)
  - Print formatted XHTML data – convert to FO using sub template (as used in Oracle Contracts) (11.1.1.6 supports HTML in data)

Starting w/ 11.1.1.3 we recommend using Style Templates for Header / Footer instead of RTF Sub Template

# **Hardware and Software Engineered to Work Together**

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