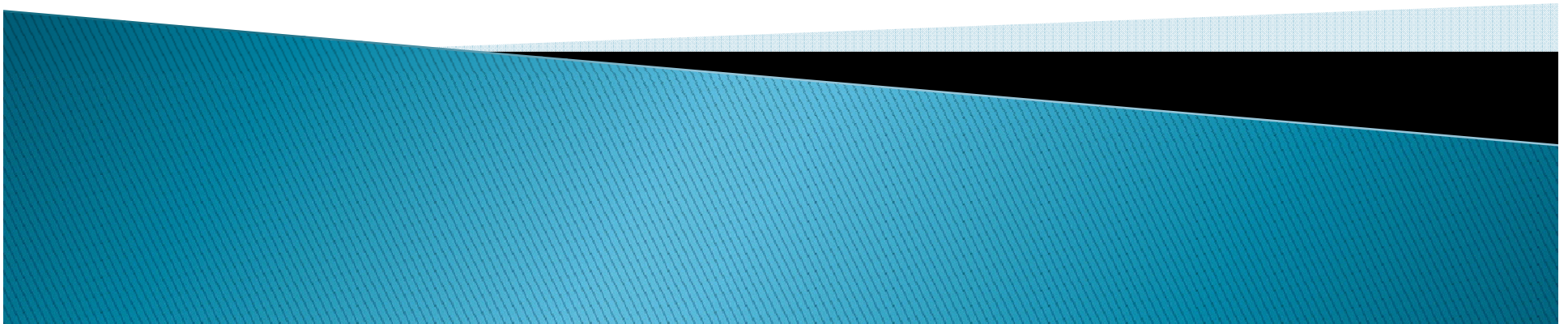


Streamlining and Consolidating Invoice Presentation and Delivery: A Case Study

Presented By:
Jason Webster, Underwriters Laboratories
Joe Tseng, O2Works



Agenda

- ▶ Introductions
- ▶ UL Invoicing Requirements
- ▶ Prior UL Invoice Process
- ▶ New UL Invoice Process
- ▶ Results Inventory
- ▶ Demonstration



Introductions



▶ Jason Webster

- Senior Business System Analyst, Underwriters Laboratories
- Experience: 99 years UL IT, 99 years Oracle EBS
- Contact Information: jason.webster@ul.com

▶ Joe Tseng

- Technical EBS Consultant, O2Works, LLC.
- Over 25 years technical implementation experience in Oracle EBS
- Contact Information: jtseng@o2works.com



About Underwriters Laboratories



- ▶ UL fosters safe living and working conditions for people everywhere through the application of science to solve safety, security and sustainability challenges. The UL Mark engenders trust enabling the safe adoption of innovative new products and technologies. Everyone at UL shares a passion to make the world a safer place. We test, inspect, audit, certify, validate, verify, advise and train and we support these efforts with software solutions for safety and sustainability.
- ▶ UL is a global independent safety science company since 1894, operating in more than 113 countries and 143 markets around the world.
- ▶ 159 UL laboratory testing and certification facilities
- ▶ UL mark appears on more than 22 Billion products globally.
- ▶ UL has written more than 1,600 standards defining safety, security, quality and sustainability



About O2Works

- ▶ **O2Works** is one of the leading E-Business Suite services providers offering the most experienced teams of functional and technical consultants in the industry. Our hands-on **resources average 19+ years of experience** focused exclusively on implementing, upgrading, integrating, and extending Oracle's E-Business Suite.
- ▶ Stop by booth# 115 and talk to us about our large portfolio of successful projects.





UL Invoicing Requirements

- ▶ UL's business currently has an invoicing volume of about 75,000 invoices per month. This volume can jump to 150,000 invoices for annual billing cycles.
- ▶ Invoices are created for 52 different operating units across 113 different countries in 7 different languages.
- ▶ Invoices are distributed via email, USPS, and online
- ▶ A single invoice run must distribute invoices for all operating units to multiple printers across the world
- ▶ Users also require the capability to view and print invoices directly from within Oracle EBS
- ▶ Invoice viewing and payments by customers can be done online using Oracle iReceivables





UL Invoicing Requirements

- ▶ UL utilizes a number of different invoice formats. The key factors for driving how each individual invoice is “structured” are:
 - Invoice Type/Source
 - Operating Unit
 - Language
 - Bill To Country





U.L.

Factura

Compañía

UL DE ARGENTIN S.R.L.

Accounts Payable
Estringer SA
Av Amancio Alorta 1647
CABA, C1283AAC
Argentina

Condicion de I.V.A.: Responsable Inscripto
CUIT del cliente : 30701753932

A

Código No 01

Comprobante

Factura : A-0004-00000801
Facturar a la cuenta : 1425074
Fecha de facturación : 03/08/2018
Orden de venta : 11047299
Condiciones de pago : Contado

Descripción	Cantidad	UCOM	Precio unitario	Monto
Inspección de fábrica en VPB, San Pablo, Brasil. Licencia Inicial certificado 16AR45131.1 Servicios para Equipos de protección personal (EPP) Certificación de MARCA (Res. 896/99) de CASCOS PARA PROTECCIÓN PERSONAL modelos WPS0870, WPS0872, WPS0874, WPS0876, WPS0878, WPS0881, WPS0871, WPS0873, WPS0874, WPS0877, WPS0879, WPS0882. Certificado 16AR45131.1 Gastos de traslados.				
Importe				
			Gravado	25.917,50
			No Gravado	177,76
			IVA Insc (21%)	5.852,70
Total				32.747,96 Pesos

Información adicional:

Dirección de servicios

Registro de I.V.A del cliente 30701753932

Formas de Pago:

Transferencia Bancaria

Titular : U. de Argentina S.R.L.
Banco : BANCO GALICIA- Sucursal N° 64

Página 1 de 2

Argentinian Invoice

	Invoice																																						
Remit to UPL Quality Assurance Pvt. Ltd A-12, Infocity, Sector 34 Gurgaon, Haryana, 122001 India	Customer Information Invoice : 10020084635 Bill to Account : 1168989 Invoice Date : 19-Jul-2016 Sales Order : 11362039 PO : Payment Terms : NET 30 Permanent Account # Service Tax Number Customer Contact																																						
Charges																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Description</th> <th style="width: 10%;">Quantity</th> <th style="width: 10%;">UOM</th> <th style="width: 15%;">Unit Price</th> <th style="width: 15%;">Amount</th> </tr> </thead> <tbody> <tr> <td>Softlines testing</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Sub Total</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Service Tax (14.00%)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Swachh Bharat Cess (0.50%)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Krishi Kalyan Cess (0.50%)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: right;">Total Amount Due</td> <td></td> <td></td> <td></td> <td style="text-align: right;">2,121.76 INR</td> </tr> </tbody> </table>	Description	Quantity	UOM	Unit Price	Amount	Softlines testing					Sub Total					Service Tax (14.00%)					Swachh Bharat Cess (0.50%)					Krishi Kalyan Cess (0.50%)					Total Amount Due				2,121.76 INR				
Description	Quantity	UOM	Unit Price	Amount																																			
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Swachh Bharat Cess (0.50%)																																							
Krishi Kalyan Cess (0.50%)																																							
Total Amount Due				2,121.76 INR																																			
Additional Information: Service Address 																																							
Project Name IA16-18379																																							
Additional Payment Information: Bank Information Account Name Account Number Account Currency ACH Number IFSC UPL Quality Assurance Pvt Ltd 																																							
Please send the remittance advice for ACH and Wire payments to: Gurgaoncash@ucl.com. Preferred ACH file format: CTR																																							
IFSC Swift Code																																							
Note: All payments are to be made directly from an institution and from an account that are not subject to any United Nations, local or U.S. sanction. For information regarding our services, please visit our website at www.ucl.com.																																							
For billing questions and address changes, please contact your Customer Service Professional (CSP), at 91-124-4698100 or by fax at 91-124-4698110																																							
The applicable rates of Tax Deduction at Source (TDS) will be 10% (plus surcharge) on the invoice value (Sec 194 J).																																							
Page 1 of 2																																							

English Invoice



平581-0071

請求先お振替番号 : 54917

名称 : BLUリモコン(HRM5074)の各電通法に
基づく申請代行業務(8ヶ月追加分)

請求書

株式会社UL Japan

平16-0021三貴電伊都前館郵4363番326

請求番号 : 14020049985

発行日 : 2016年05月24日

基連番号 : 1101123212

オーダー番号 : 11147501

P.O.番号 :

支払期日 : 請求書発行日より60日以内



業務内容	数量	単価	金額
ボリトア申請 各電通法申請代行			
小計			
消費税			
請求金額合計			506,520 円

備考:

サービスアドレス:
 〒581-0071
 大塚前 大塚市 北久米寺1-4-33
 ホリデン 株式会社

振込口座情報:
 当金払は三貴電伊都前館にお振込みください
 三井北沢銀行
 東京支店
 平585452
 東京市代田区北久米寺1-4-33 東京ホリ

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 ● 東京支店Eメール: Tel: (0586-24-6795) ● 東京支店Eメール: Tel: (0586-24-6795) ● 東京支店Eメール: Tel: (0585-55-6402) ● 東京支店Eメール: Tel: (0478-42-0063) ● GMA Wireless Tel: (0586-24-6795) ● カスタマーサービス Tel: (0586-24-6795)

Page 1 of 1



Prior UL Invoice Process

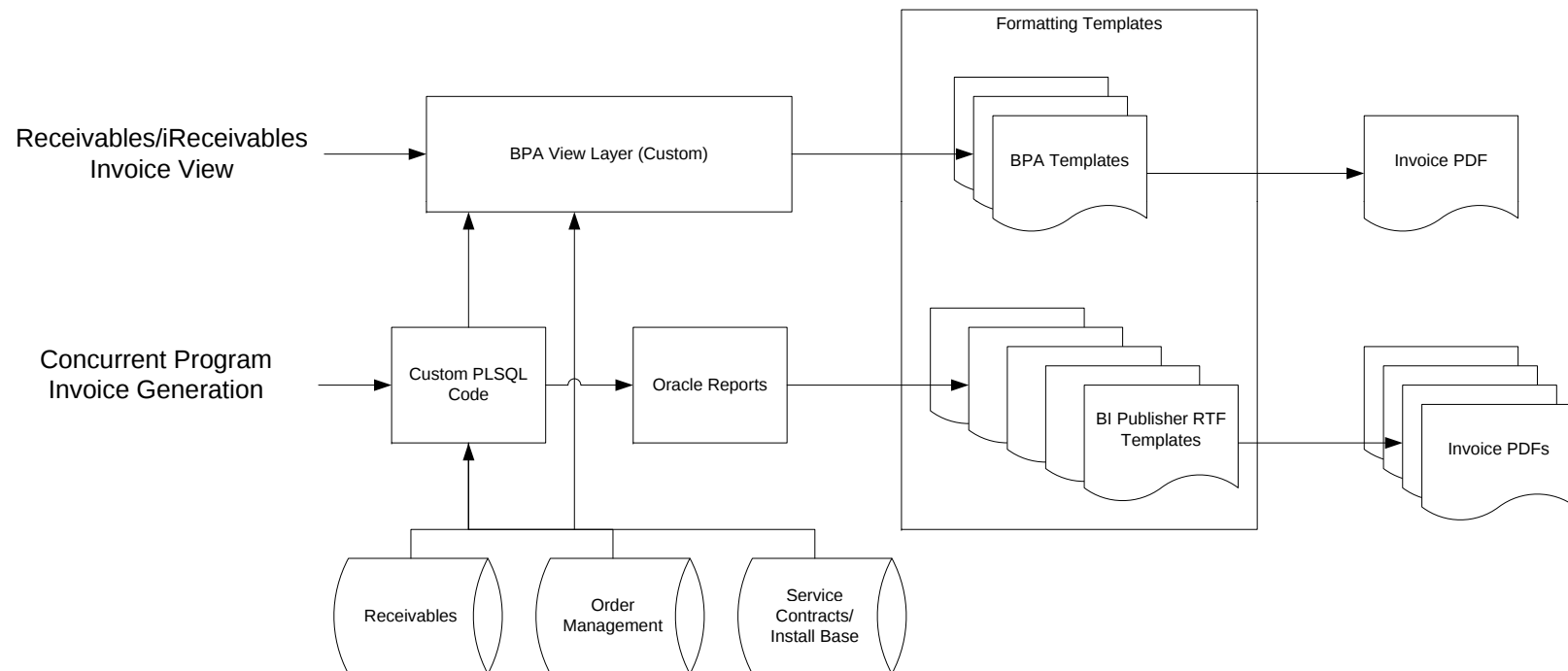
- ▶ Prior to the rewrite, UL implemented a traditional R12 invoicing solution that included the following:
 - Custom-built BI Publisher based programs for invoice printing and distribution. This solution used a large amount of PLSQL code, Oracle Reports, and a series of BI Publisher formatting templates.
 - Oracle Bill Presentment Architecture (BPA) for Online invoice viewing from within Receivables and iReceivables for one-off presentations



UL Prior Invoice Process



► Prior state process flow:





Prior UL Invoice Process

- ▶ Because of the different technology stacks implemented (BPA and BI Publisher), the existing invoice process at UL had a number of inherent difficulties.
 - Consistency between the BPA and BI Publisher presentations was a headache.
 - The large number of operating units and languages greatly restricted the flexibility of the organization when tied to the implemented design.
 - The code base of over 50,000 lines of code in PLSQL packages, Oracle Reports, BPA supporting views and templates, and BI Publisher formatting templates was very costly to maintain. Simple text changes to invoices were time and effort intensive
 - Performance was an issue.
 - A single monthly invoice run took over 60 hours to complete
 - The generation of a single invoice took from 5–8 minutes





New UL Invoice Process

- ▶ In the spring of 2016, UL embarked on an effort to redo their invoice printing and presentation functions. This effort required the following:
 - First and foremost, simplify the overall invoice generation process and eliminate the maintenance headaches of the existing process
 - Redesign the overall invoice look-and-feel based on customer focus group feedback
 - Maintain all data elements currently showing on the invoice
 - Allow for the keeping of “point-in-time” invoice states
 - Integrate invoice presentation and payment processing with a 3rd party vendor.





New UL Invoice Process

- ▶ UL worked with O2 Works to design and build a more streamlined invoice process. The new design significantly reduced the maintenance and performance issues of the prior approach. It centered upon
 - Elimination of Oracle Bill Presentment Architecture from the invoice presentation solution altogether
 - Centralization of all invoice generation into one BI Publisher program.
 - Consolidation of all BI Publisher formatting templates per Operating Unit and language into a single template
 - Usage of a pair of custom built tables to hold all invoice labels for all languages and operating units
 - Creation of custom invoice repository tables to hold “point-in-time” invoice representations.
 - Extensive use of BI Publisher bursting to distribute invoices to printers, email, and data to a 3rd Party vendor





New UL Invoice Process

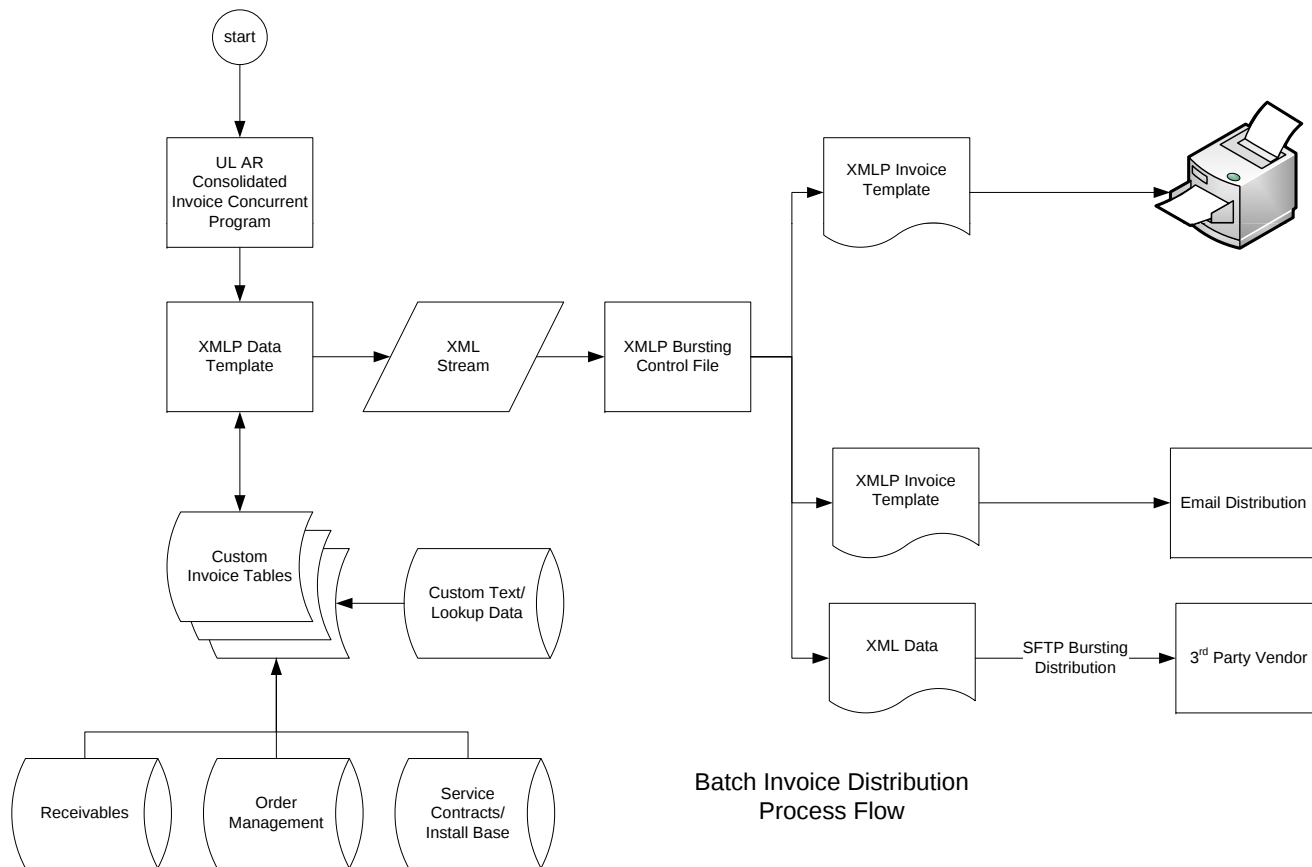
- ▶ The technical components of the solution were:
 - A set of custom tables to hold each invoice representation
 - A set of PLSQL packages to populate the custom tables
 - A single BI Publisher data template to query the custom tables and provide the necessary XML data stream
 - A single BI Publisher formatting template (RTF) for all operating units and languages
 - A custom table and supporting form to maintain invoice “boilerplate” text for all languages and operating units
 - A BI Publisher bursting file to format and sent output to printers across the world, as well as XML data to a 3rd party vendor
 - An OAF extension to bypass the need for Oracle BPA



New UL Invoice Process



- ▶ The new solution process flow:



Batch Invoice Distribution
Process Flow



New UL Invoice Process

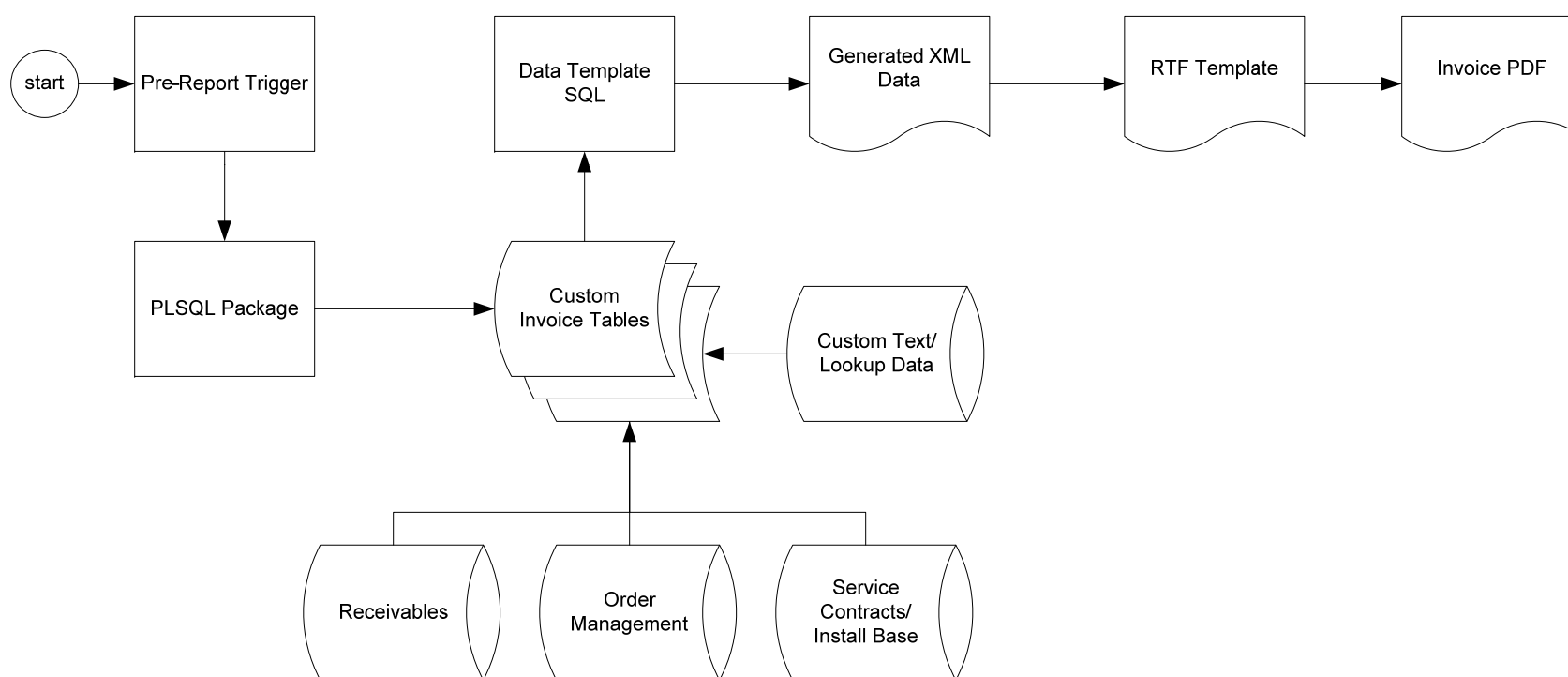
- ▶ Oracle BI Publisher was used for ALL invoice generation
 - A single data template with a before-report trigger gathered all data from Oracle modules (AR, OM, Service Contracts, Install Base) and populated custom tables with necessary data. The template then queried custom tables to provide the XML data stream.
 - A single formatting template
 - A bursting control file to direct output distribution





New UL Invoice Process

▶ Invoice Generation Flow with BI Publisher:





New UL Invoice Process

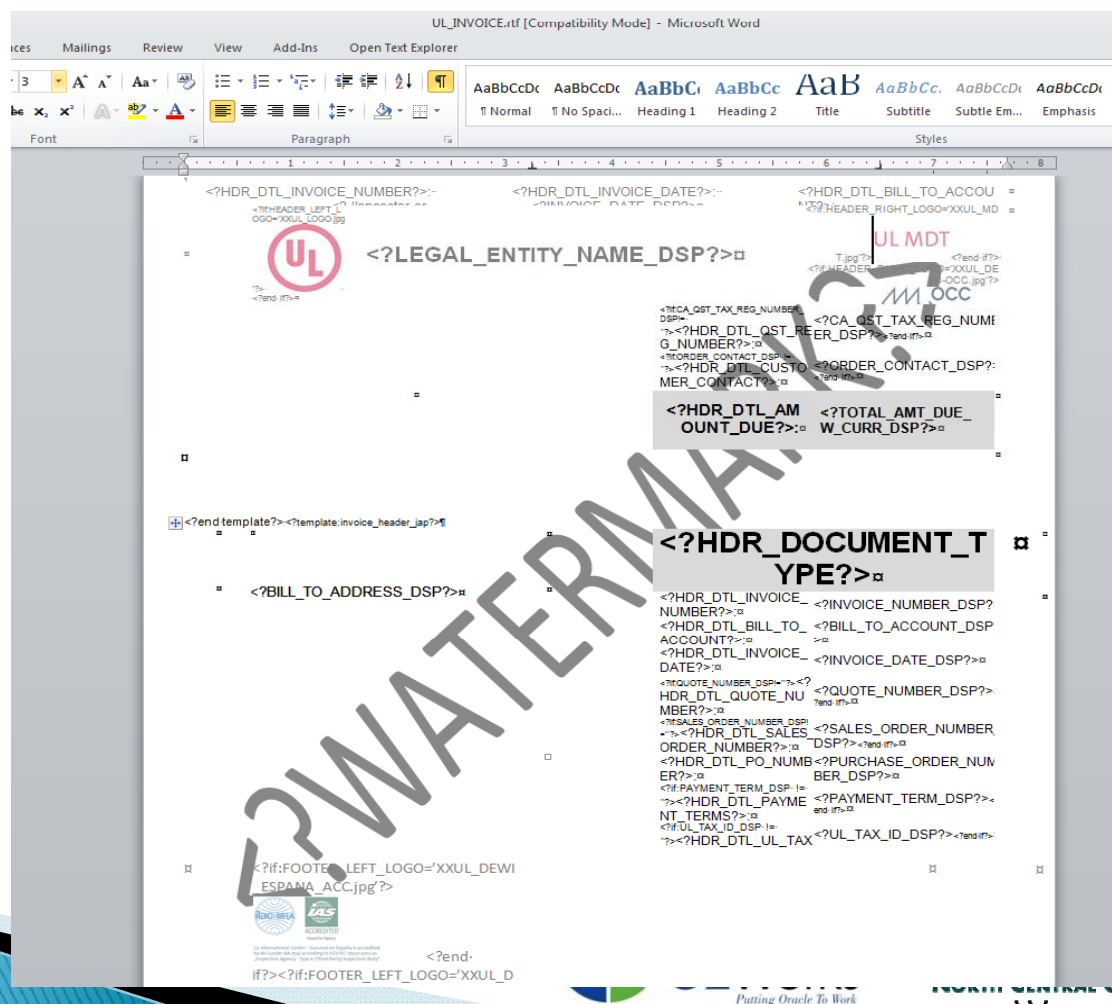
- ▶ The support for all languages and operating units into a single template was accomplished by treating all invoice elements as data. All “boilerplate” text was treated as a data element on the template and stored in the custom tables – along with the usual invoice data elements.
- ▶ All “boilerplate” text was removed from the formatting template. i.e. the template consists only of data elements





New UL Invoice Process

- ▶ The BI Publisher formatting template:



New UL Invoice Process



- ▶ Invoice “boilerplate” text for different languages, operating units, and bill to countries is maintained in a basic custom table with a supporting custom Oracle Form.

Language
Specific label

UL Invoice Text and Lookup Maintenance

Code: HDR_DTL_AMOUNT_DUE

Description: Header detail, customer_contact

Default Value: Amount Due

Values

Value	Language Code	Operating Unit	BT Country	Key
Fälliger Betrag	D			
Total	ESA			
Montant dû	F			
請求金額合計	JA			
应付总额	ZHS			
應付總計	ZHT			



New UL Invoice Process

- Flexibility allowed for different “boilerplate” text per language, OU, and Bill to Country

OU, French language
specific text
for a French Bill To

Value	Language Code	Operating Unit	BT Country	Key
Note: All payments are to be made directly from an i	US	DEWI Espana		
Commentaire: Tous les paiements doivent être faits	F	DEWI France	France	
Note: All payments are to be made directly from an i	US	DEWI France		
Hinweis: Alle Zahlungen müssen direkt von einer Bar	D	DEWI OCC	Germany	
Note: All payments are to be made directly from an i	US	DEWI OCC		
Note: All payments are to be made dire				
Note: All payments are to be made dire				
Note: All payments are to be made dire				
Note: All payments are to be made dire				
Nota: Todos los pagos deben ser hech				
Note: All payments are to be made dire				
Note: All payments are to be made dire				
Note: All payments are to be made dire				
Note: All payments are to be made dire				
Note: All payments are to be made dire				
Note: All payments are to be made dire				



New UL Invoice Process

- ▶ Other “boilerplate” text was language, operating specific and invoice type specific

Language, OU,
and Invoice Type
specific Tax message

Value	Language Code	Operating Unit	BT Country	Key
This service contains 0% VAT in Spain. The tax liability is shifted to the recipient of the supply (Reverse Charge-Regime - Articles 69 and 70 of the VAT Law 37/1992).	US	DEWI Espana		DEPOSIT INVOICE
This service contains 0% VAT in the French Republic	US	DEWI France		OM - INVOICE
This service contains 0% VAT in the French Republic	US	DEWI France		INVOICE
This service contains 0% VAT in the French Republic	US	DEWI France		DEPOSIT INVOICE
Der in Rechnung gestellte Betrag enthält 0% Umsatz	D	DEWI OCC		INVOICE
Der in Rechnung gestellte Betrag enthält 0% Umsatz	D	DEWI OCC		OM - INVOICE
Der in Rechnung gestellte Betrag enthält 0% Umsatz	D	DEWI OCC		DEPOSIT INVOICE



New UL Invoice Process

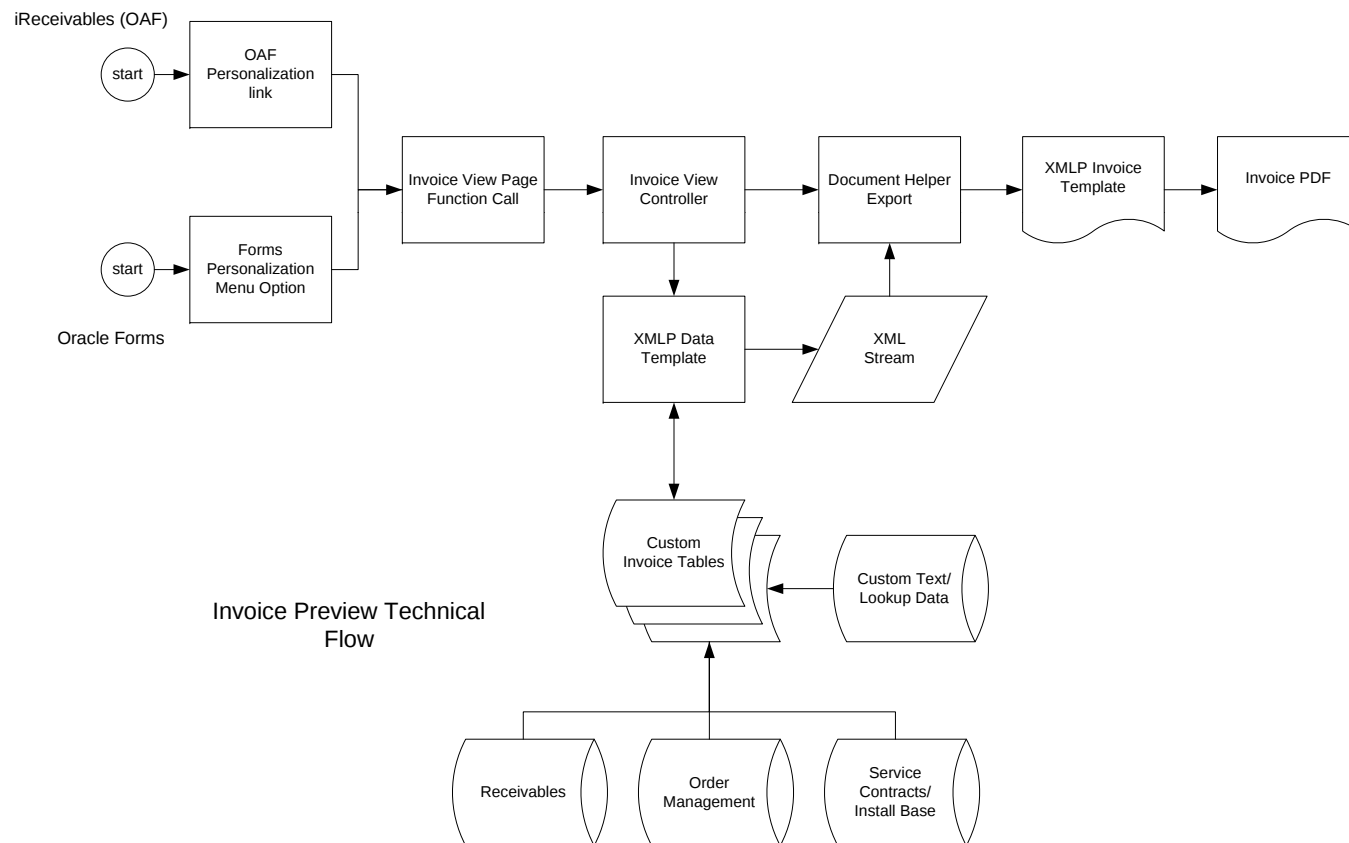
- ▶ Online viewing from Receivables and iReceivables was linked to BI Publisher by the creation of an OAF extension. This “BPA Bypass” eliminated the need for BPA specific views and templates.
 - A forms personalization called the OAF Extension from a menu
 - Because the OAF extension was created as a function, iReceivables could be linked to iReceivables by a simple OAF personalization link



New UL Invoice Process



► The “BPA Bypass”



New UL Invoice Process



iReceivables Invoice Presentment:

ORACLE Bill Management
UL AG-2

Home Invoice 34740797203

Print Preview Activities

Invoice Information

 **Remit to**
UL AG
Ringstrasse 1
Schwerzenbach 8603
SWITZERLAND

Customer Information

Invoice 34740797203
Bill to Account 73122
Invoice Date 31-Jan-2017
Sales Order AG20063984
PO
Payment Terms IMMEDIATE
Customer VAT Registration
Customer Contact 顾海英 GU
UL Tax Id

顾海英 GU

Description	Quantity UOM	Unit Price	Amount
Valves, Electrically Operated			
RECEIVERS, REFRIGERANT			
Valves, Electrically Operated			

New UL Invoice Process



iReceivables Invoice Presentment:

ORACLE Bill Management
UL AG

Home Invoice 34740797203 Print Preview Activities

Invoice Information

 **Remit to**
UL AG
Ringstrasse 1
Schwerzenbach 8603
SWITZERLAND

Customer Information

Invoice 34740797203
Bill to Account 73122
Invoice Date 31-Jan-2017
Sales Order AG20063984
PO
Payment Terms IMMEDIATE
Customer VAT Registration
Customer Contact 顾海英 GU
UL Tax Id CHE-272.927.457 MWST

顾海英 GU
ZHEJIANG SANHUA CLIMATE & APPLIANCE CONTROLS GROUP
XIALIQUAN
QIXING DISTRICT
XINCHANG ZHEJIANG 312500
CHINA
China

Description	Quantity UOM	Unit Price	Amount
Valves, Electrically Operated	1 Each	626.00	626.00
RECEIVERS, RE			635.00
Valves, Electric			626.00

Do you want to open or save **XXUL_AR_INVOICE571768877_out.pdf** (123 KB) from **usnbka401t.global.ul.com**? ×

Open Save Cancel

New UL Invoice Process



iReceivables Invoice Presentment:

XXUL_AR_INVOICE571768877_out.pdf - Adobe Reader

File Edit View Window Help

1 / 4 100%

以下地址仅供发展部寄件用，与发展部的法人实体实际登记地址无关联

 **UL AG**
C/O UL AG Taiwan Branch
112台北市北投区大业路260号 (财务部)

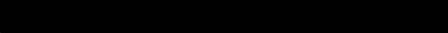


发票

发票号码: 34740797203
客户编号: 73122
发票日期: 31-JAN-2017
PO: 
支付期限: 见票即付
VAT Registration: 

应付总额: 4,189.00 USD

按客户编号汇总

工厂帐号	工厂名称	金额
73122		
750763		

合计 4,189.00



New UL Invoice Process

- ▶ A 3rd Party Vendor was to take over printing and distribution, but this never occurred do to requirement discoveries.
- ▶ During testing, however, BI Publisher bursting was used to transmit all invoices as PDFs to the vendor along with XML and flat file data files



Results Inventory

- ▶ Overall, the invoice consolidation effort was a tremendous success:
 - Maintenance Streamlining:
 - From 40,000 lines of PLSQL code to 5,000 lines of PLSQL code
 - From 30 invoice formatting templates to 1 formatting template
 - From 3 Oracle Reports to 1 data template
 - Elimination of Oracle BPA supporting views and templates
 - Performance improvements
 - Batch Invoice creation process – From 60 hours to 2 hours
 - One-off Invoice Generation – From 5 minutes to less than 10 seconds
 - Online view – From 1 minute with BPA to less than 10 seconds through the “BPA Bypass”



Results Inventory



New Invoice Look and Feel

以下地址仅供发票邮寄使用，本发票的法人主体与实际登记地址无关系

UL AG
C/O UL AG Taiwan Branch
112台北市北投区大业路260号 (财务科)

中山市, 广东省 528415
中国

发票

发票号码: 34720128744
客户编号: 404875
发票日期: 26-JUL-2016
订单号码: 11153811
PO:
支付期限:
VAT Registration:
客户联系人:

应付总额: 998.93 USD

收费明细	数量	单位	单价	金额
Lighting Services, OOLV(Listed Tube), 4 models, UL+CUL (E480762)				
UL6UL (New Certification)				
Transportation				
Living Expenses				
Lodging				
合计				5,758.03
Less Deposit Invoice(34780027975)				-4,760.00
应付总金额				998.93 USD

以上UL提供服务的中国增值税及其他附加税按0.83%计算，为USD 393.33。
请在付款给UL前直接把相关税额支付给中国税局。该税额（含增值税及其他附加税）是基于0.83%计算所得。
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具体税费可能因不同地区规定有所区别，以当地税局规定为准。

第 1 页 / 共 3 页

The address below is for regional mailing purposes only and is not associated with the legal entity displayed.

UL Quality Assurance Private Limited
C/O UL India Pvt Ltd.
Credit & Collections Department
Kalyani Platina, 3rd Floor, Block I, No. 24, EPIP Zone,
Phase II
Whitefield, Bangalore - 560 066, INDIA

INVOICE

Invoice: 10920084635
Bill To Account: 1169888
Invoice Date: 19-JUL-2016
Sales Order: 11362039
PO:
Payment Terms: NET 30
Permanent Account #:
Service Tax Number:
CIN:
Customer Contact:

Amount Due: 2,121.76 INR

Description	Quantity	UOM	Unit Price	Amount
Softlines testing				
Total Amount Due				2,121.76 INR

Services Provided For:

Additional Information
Project Name: IA18-18379

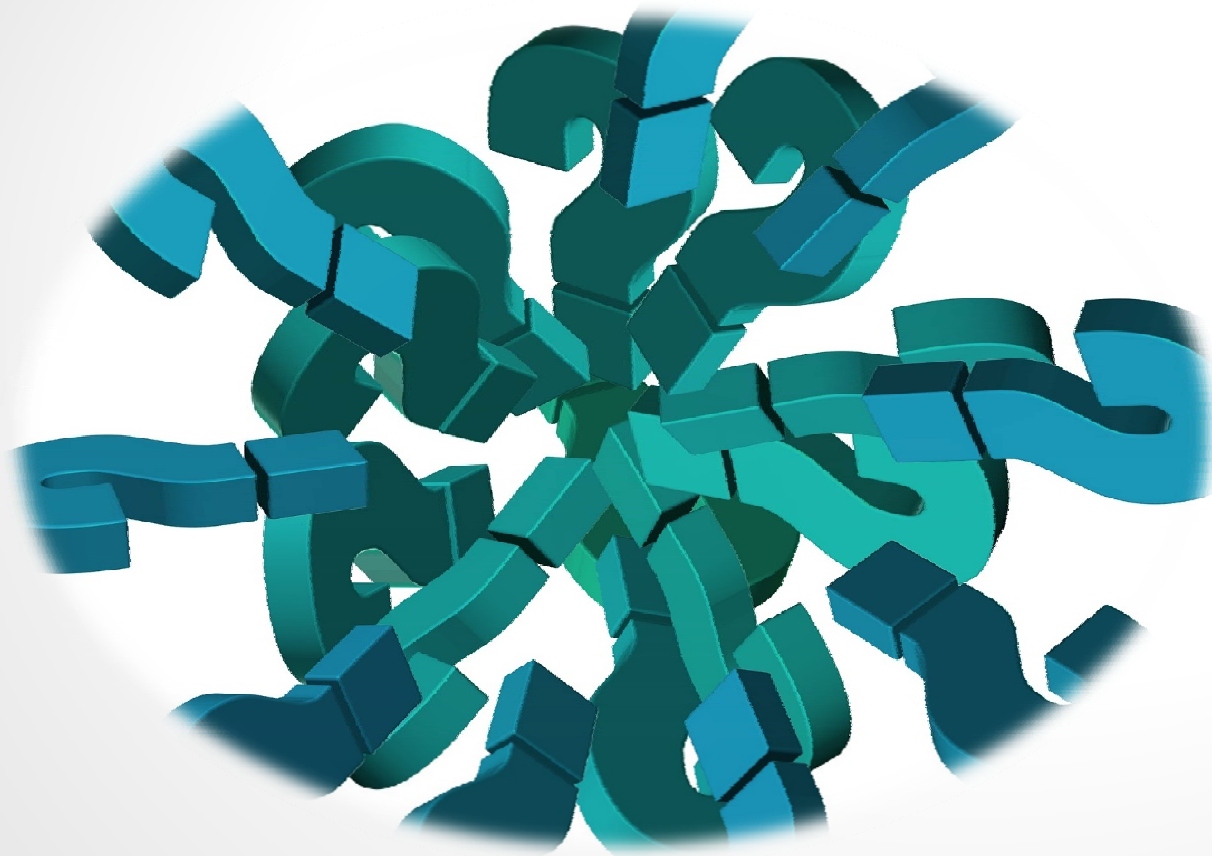
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NCOAUG
NORTH CENTRAL ORACLE APPS USER GROUP
2017 WINTER TRAINING DAY

Demonstration





Question & Answers >>