

XML PUBLISHER – WHAT’S IT ALL ABOUT?

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“Oracle XML Publisher is the new report authoring tool and server for Oracle Applications, that's now available to license as a stand-alone product. What is XML Publisher, and how does it work? How is it licensed? Is it a replacement for Oracle Reports? Can you use it with your business intelligence applications? This presentation takes a look under the covers of XML Publisher, shows how it works and how it integrates with the rest of the Oracle BI stack, and discusses the strengths and weaknesses of the initial release and the new XML Publisher Enterprise edition.”

About SolStonePlus

SolStonePlus offer a complete portfolio of services and solutions across Oracle’s entire suite of technology and applications.

Our heritage in Business Intelligence and Data Warehousing (under the plus consultancy brand) means that all of our experience has been right at the heart of our customer’s strategy and IT. infrastructure. As a means of understanding a customer’s total requirements, this experience is second to none.

We provide services encompassing consultancy, implementation, bespoke development, project management, support, training and license management, across all Oracle technologies – Database, Application Server, E-Business Suite, Business Intelligence, Collaboration Suite, RAC, Mobile and Data Hub.

Put simply: we can help you with any of your Oracle needs.

Current hot topics in which we excel include:

- Business Intelligence & Data Warehousing
- Corporate Governance
- Corporate Performance Management
- Role-based Portals
- Self-Service Information across the Enterprise
- Intelligent CRM
- Advanced Training Services

Our expertise lies in working with these technologies to deliver intelligent business solutions that provide tangible returns on investment for our customers.

With over 22 years experience SolStonePlus have an unrivalled pedigree with a wide range of successful projects and satisfied customers in most vertical markets across all business activities including Finance, HR, Manufacturing, Sales, Supply Chain, CRM, Marketing & Manufacturing.

Operational Reporting Requirements

Typically, an organization needs to produce a range of report types for both internal and external customers. Invoices and statements need to be produced for customers, and submissions have to be made to government and other regulatory authorities. Cheques are printed and sent to suppliers and members of staff, often in envelopes with printed labels on them mail-merged from customer and staff databases. Reports can be printed and distributed via internal mail, emailed directly to recipients or produced on demand through an online service.

Many Types of Report Output

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Reports can be printed on Government Issue forms, on company headed paper or as part of reporting packs that are collated and sent to executives. A report can be based on a single query, or can aggregate data from several queries to provide an overview of the performance of a part of the business, as shown in Figure 1.

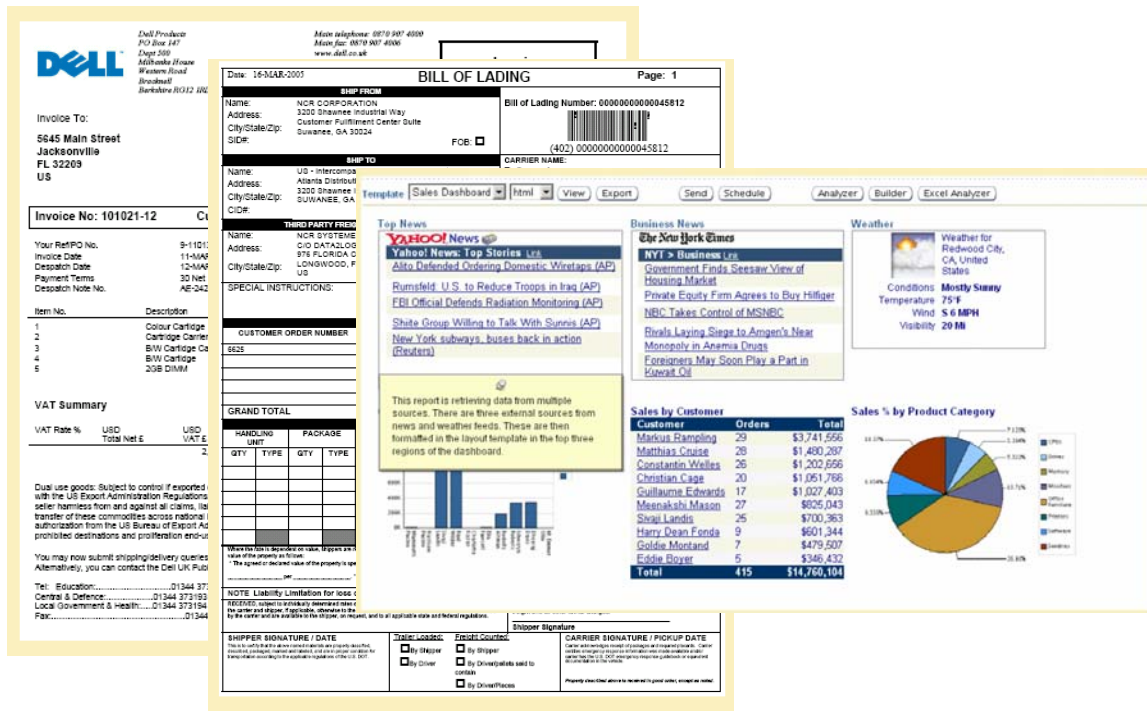


Figure 1 : Examples of Report Output

Reports do not have to be in a human-readable form; there is an increasing requirement to produce reports in a machine-readable format, either using an Electronic Data Interchange (EDI) format, or more recently, a standards-based format such as XML.

In the past, these different requirements would have meant that an organisation would need to license multiple third-party reporting products; invoices would have been produced using an Invoice Server, whilst a Cheque Printer Server would have been needed to print cheques. EDI and XML output would have required it’s own reporting application, whilst business intelligence-style queries would have required a specialised ad-hoc and OLAP reporting solution. Setting up this sort of arrangement would have been costly, time-consuming and would have been complex to maintain.

Introducing Oracle XML Publisher

Oracle XML Publisher is the new reporting element within Oracle Fusion Middleware that is the long-term replacement for Oracle Reports. Originally developed as a technology within Oracle Applications 11i, Oracle XML Publisher is now available as a stand-alone product, and can be used as a way of adding reporting and publishing functionality to your Oracle business intelligence applications.

XML Publisher provides a solution for report authoring, viewing and administration, can work with any SQL or XML data source, and has full support for business intelligence-style reporting, invoice and mail merging, cheque printing, EDI / XML and EFT data transfer and standard reporting from your Oracle or other third-party applications.

Key Features

The key features of Oracle XML Publisher are as follows:

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- Standards-based : Oracle XML Publisher is a key part of the “hot-swappable” SOA-based Oracle Fusion Middleware, reports against any SQL or XML datasource and can be deployed on Oracle Containers for Java or other popular J2EE web application servers.
- Platform Independent : XML Publisher is designed for use with any J2EE application server, and currently supports Oracle OC4J 10.1.2 and Apache Tomcat 5.x
- Familiar Desktop Design Tools : Reports are designed using plug-ins to Microsoft Word and Adobe Acrobat
- High performance reporting engine : A recent XML Publisher implementation at Dell produces around 10,000 documents an hour with minimal load on the database engine.
- High volume / advanced printing support : XML Publisher supports requirements such as cheque printing, watermarking, and printing on official government stationery.
- Advanced support for multiple languages : No need for expensive language-specific printers, and the product ships with a full set of Unicode fonts.
- Communicate in multiple formats: PDF, XML, EFT
- Report from multiple Databases (Oracle, DB2, etc)
- Multiple delivery options : Print, fax, email, WebDAV, HTTP, FTP and so on.

XML Publisher Development

XML Publisher separates data from the report layout and the specifics of the user interface. Users use a familiar desktop tool such as Microsoft Word to design the report template, then submit this along with the data source to the XML Publisher reporting engine (Figure 2)

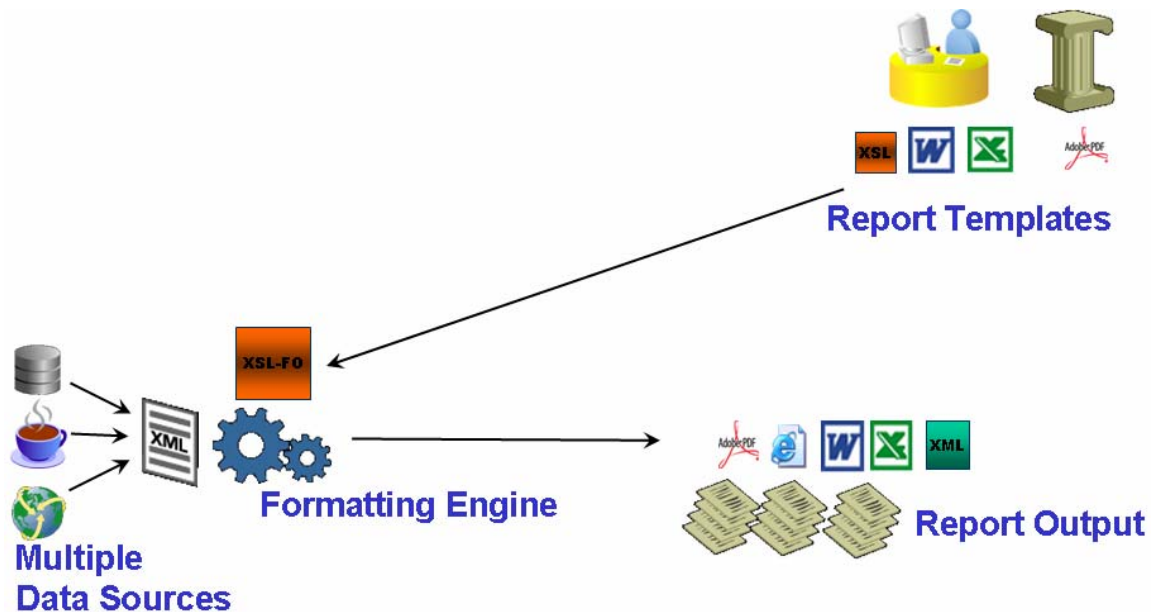


Figure 2 : XML Publisher Process Flow

Creating a clear separation between the data, the layout and the interface used to view the report makes it easier to report the same data in different formats, easier to maintain a library of report definitions, and more straightforward to introduce features such as multiple language translation.

XML Publisher 5.5

XML Publisher – What’s It All About?

XML Publisher, as mentioned earlier, was originally introduced as the new printing technology with Oracle Applications 11i. It was then released as a standalone product and was made available for download in the last quarter of 2005.

This initial release was called Oracle XML Publisher 5.5 and consisted of two products, Oracle XML Publisher Desktop and Oracle XML Publisher Server. Oracle XML Publisher Desktop was a Microsoft Word Add-in that provided the ability to import an XML or SQL data source, lay out a report template using standard Microsoft Word tables and formatting, and then run the report from within Microsoft Word.

The Server element of Oracle XML Publisher was more of a “work in progress”, and consisted of a J2EE application that could be deployed on either Oracle OC4J 10.1.2 or Apache Tomcat 5.x (although the author only managed to get it working using OC4J). The download came with two demonstration applications that showed how report templates could be deployed to XML Publisher, including an online reporting application as shown in Figure 3.

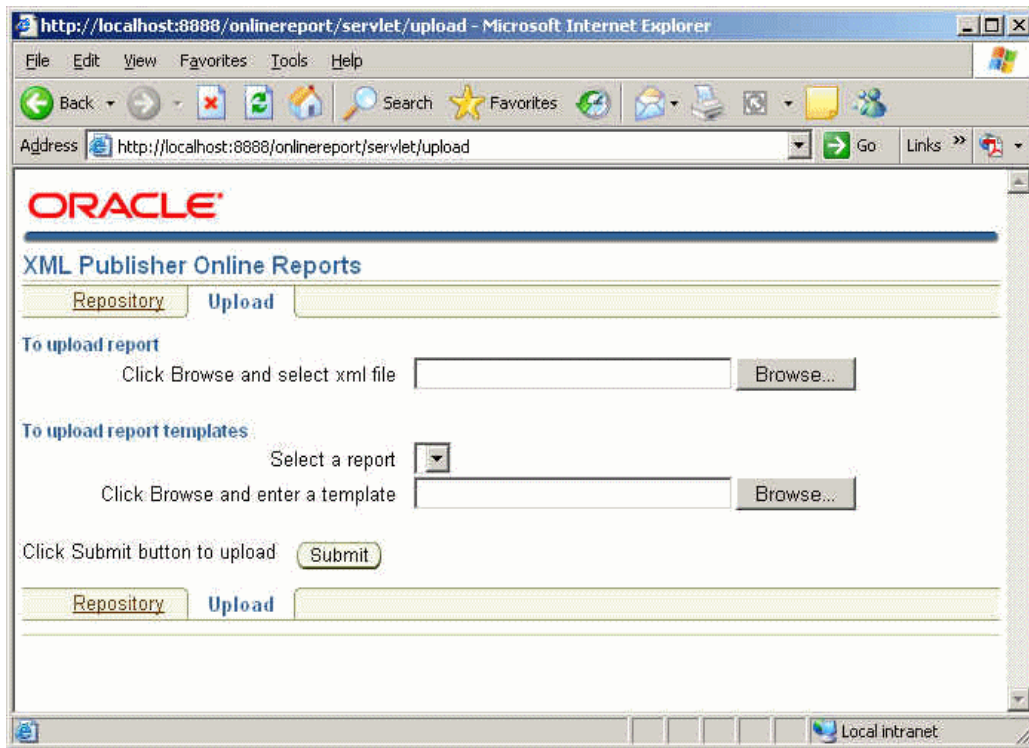


Figure 3 : XML Publisher 5.5 Online Reports Demo

A more detailed review of this initial standalone release of Oracle XML Publisher 5.5 can be found on the author’s weblog at:

- http://www.rittman.net/archives/2005/12/a_first_look_at_xml_publisher.html
- http://www.rittman.net/archives/2005/12/more_on_xml_publisher.html
- http://www.rittman.net/archives/2005/12/wrapping_up_on_xml_publisher.html

XML Publisher Versions

Following on from the initial standalone XML Publisher 5.5 release, version 5.6 of XML Publisher is due for release in the first quarter of 2006. This latest version of Oracle XML Publisher brings the Desktop and Server versions of the product into a new release called Oracle XML Publisher Enterprise, and support is now extended to Oracle PeopleSoft and J.D. Edwards. For organisations looking to use Oracle XML Publisher as part of their business intelligence deployment, the new Enterprise version of Oracle XML Publisher is of the most interest and this paper will therefore now concentrate on this new product.

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XML Publisher Enterprise

The initial standalone release of Oracle XML Publisher provided a Microsoft Word add-in for authoring report templates, and a server application that could be used as the basis of an online reporting application that customers had to build themselves. This initial release lacked several key features that stopped it being a complete end-to-end solution; as previously mentioned the server element was more of a “toolkit” and you had to build the actual application yourself, and you still had to define some parts of the report – the “report definition” file with an “.xdo” suffix, that brought together the dataset, the template and details of any report parameters – by hand.

All of these initial issues are addressed in the 5.6 release of Oracle XML Publisher, which now comes with a full report authoring, publishing and administering environment that is accessed via a Web browser

The Oracle XML Publisher Enterprise server elements will be packaged along with OC4J, and available as an “out of the box install” using the Oracle Universal Installer. It will also be packaged as WAR file for use with other J2EE application servers.

The client-side install will consist of an updated Template Builder for Microsoft Word, with a new XML Publisher Report Definition Wizard. A plug-in for Microsoft Excel will also now be provided, to allow report analysis via this spreadsheet tool, and a new Template Viewer and Debugger will be provided in order to troubleshoot any issues with templates that are generated.

FOR REPORT DEVELOPERS

Oracle XML Publisher 5.6 Enterprise extends the existing report development features provided by the initial standalone release. The plug-in to Microsoft Word allows the user to build their report template using a familiar layout tool (Figure 5) whilst the 5.6 release gives the additional option to design the template using Adobe Acrobat.

Figure 4 : Oracle XML Publisher Enterprise

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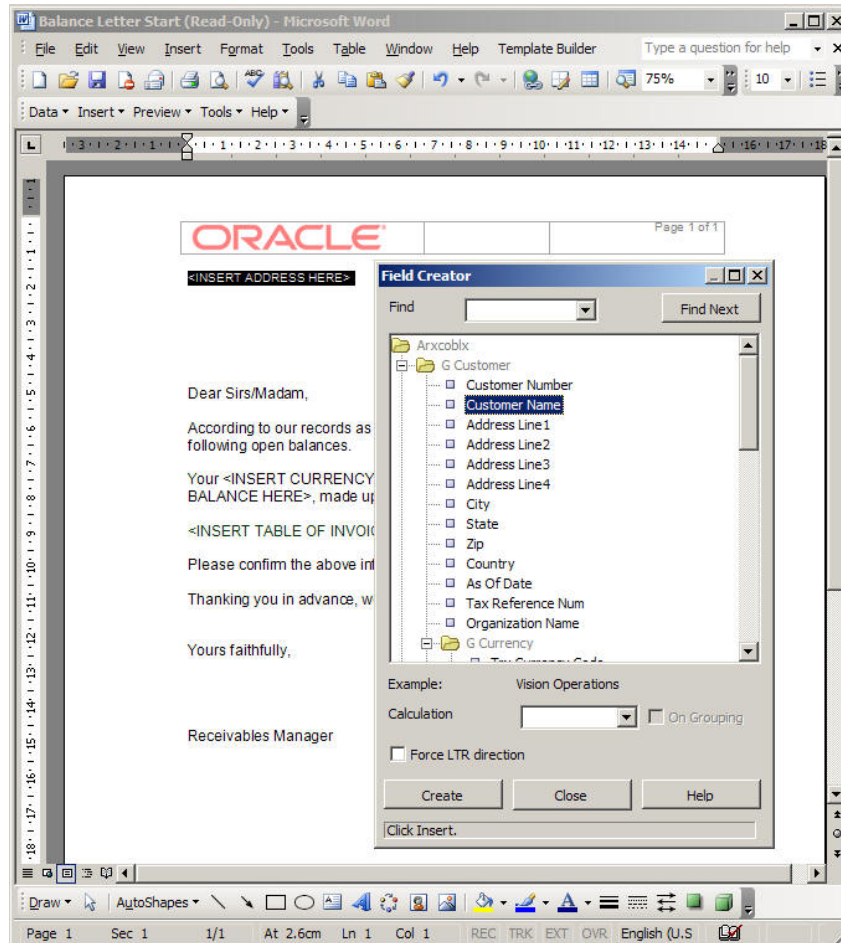


Figure 5 : Oracle XML Publisher Desktop

New with Oracle XML Publisher 5.6 Enterprise is an online report building environment that complements the Desktop version; this provides similar functionality whilst giving the user the ability to design the report template using their Web browser (Figure 6.)

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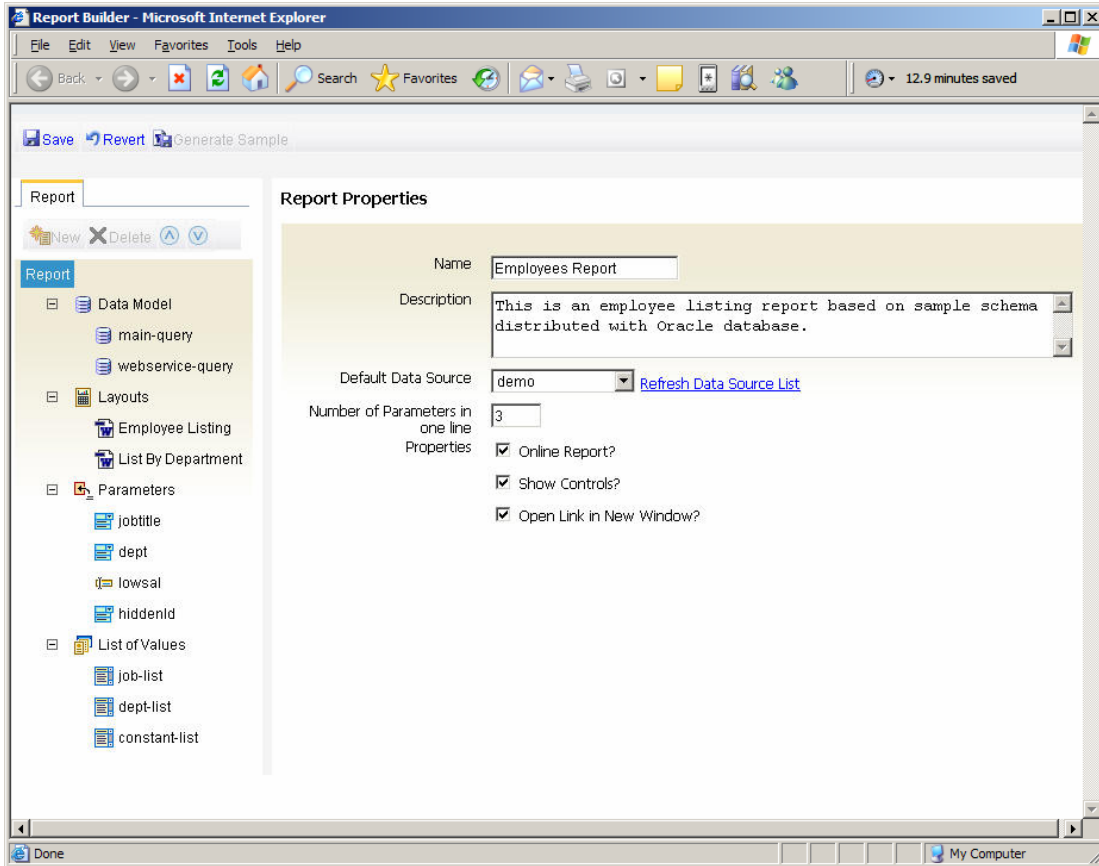


Figure 6 : Oracle XML Publisher Online Report Builder

This new feature now provides a graphical environment for defining the “report definition” element of the report, allowing the report developer to define parameters and lists of values for the report, and bring these together with the report templates and associated datasets.

FOR END-USERS

New with Oracle XML Publisher 5.6 Enterprise is a complete environment that allows users to run and schedule reports that have been previously defined by a report developer. A new feature of this release is a “reports portal” that users can log in to, and then either run reports online, or schedule them for later execution (Figure 7)

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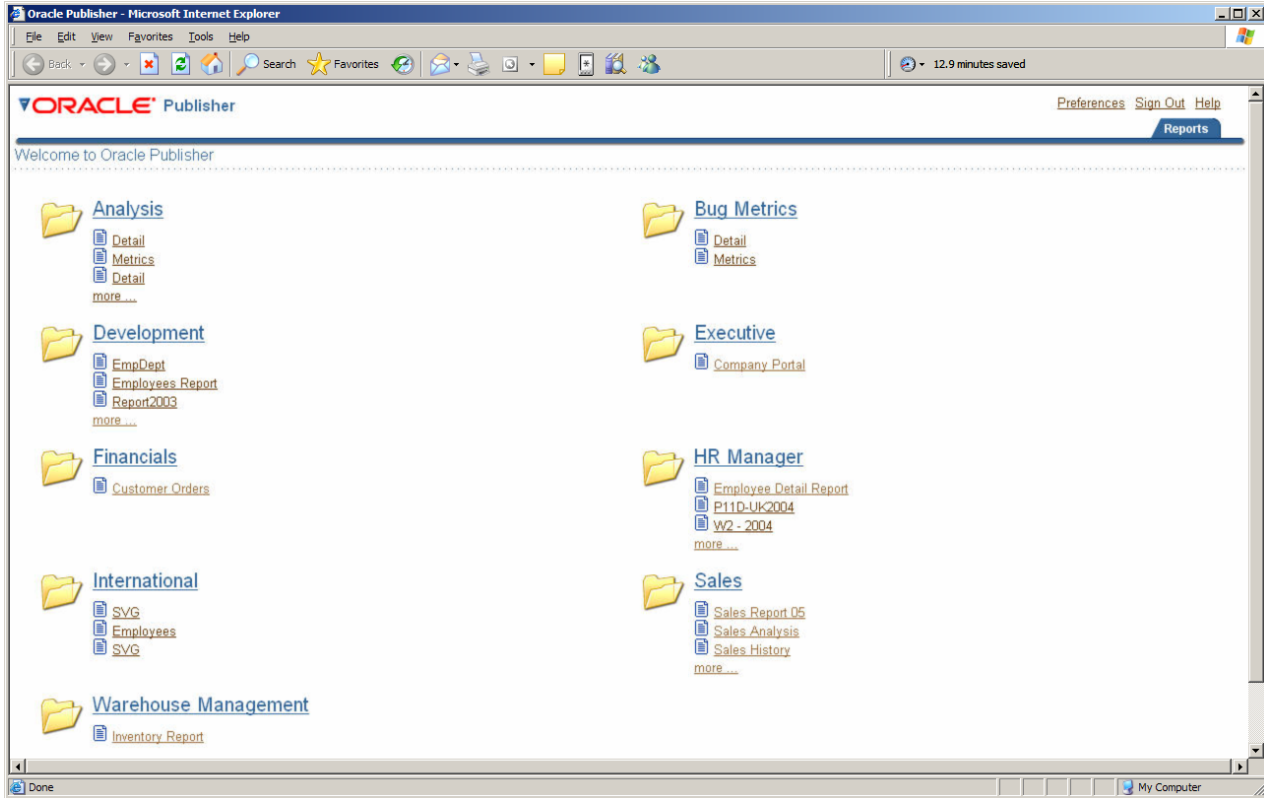


Figure 7 : The XML Publisher 5.6 Reports "Portal"

Within Oracle XML Publisher 5.6 Enterprise, reports are organised into folders, and folders are secured against roles. Users can access the report history and check the progress of jobs, and can specify the format in which the reports is delivered.

End users can interact with reports, and can specify values for parameters as defined earlier by the report developer (Figure 8)

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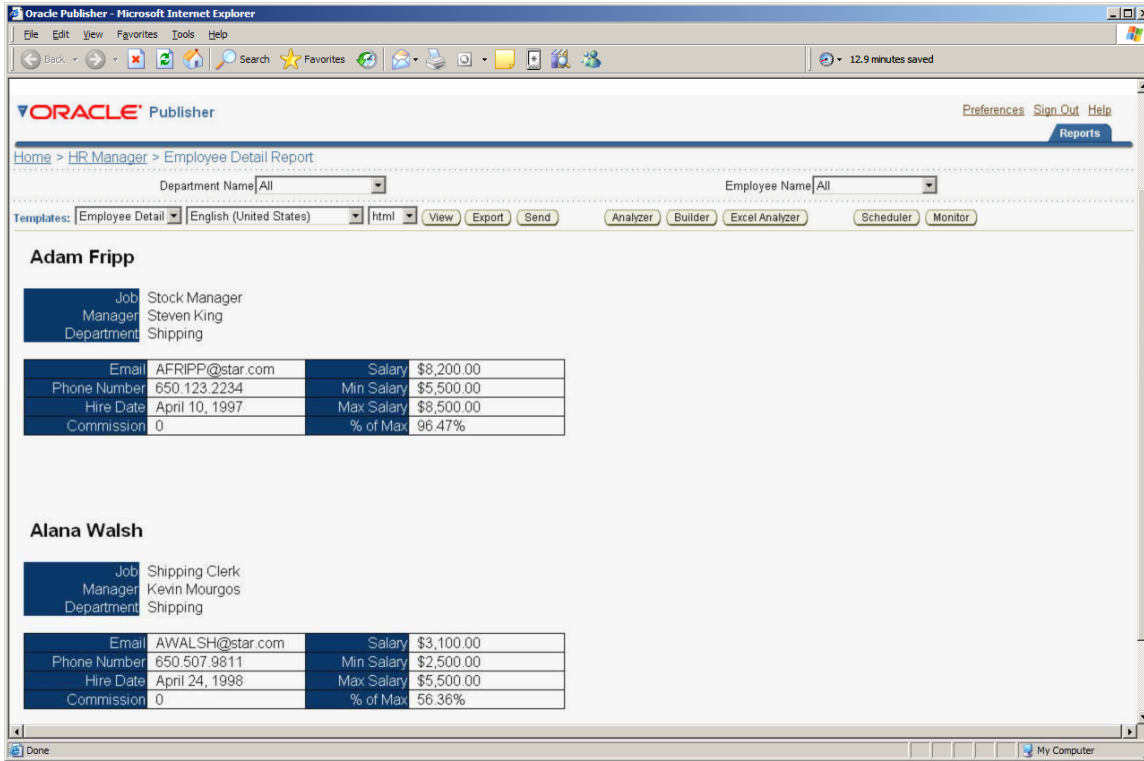


Figure 8 : Running a Report Interactively

Whilst most standard reports will follow a tabular format, Oracle XML Publisher 5.6 allows report developers to build reports that incorporate multiple data sources, include additional information via XML or Web Services feeds (Figure 9), or use graphics to present key information in a striking manner (Figure 10)

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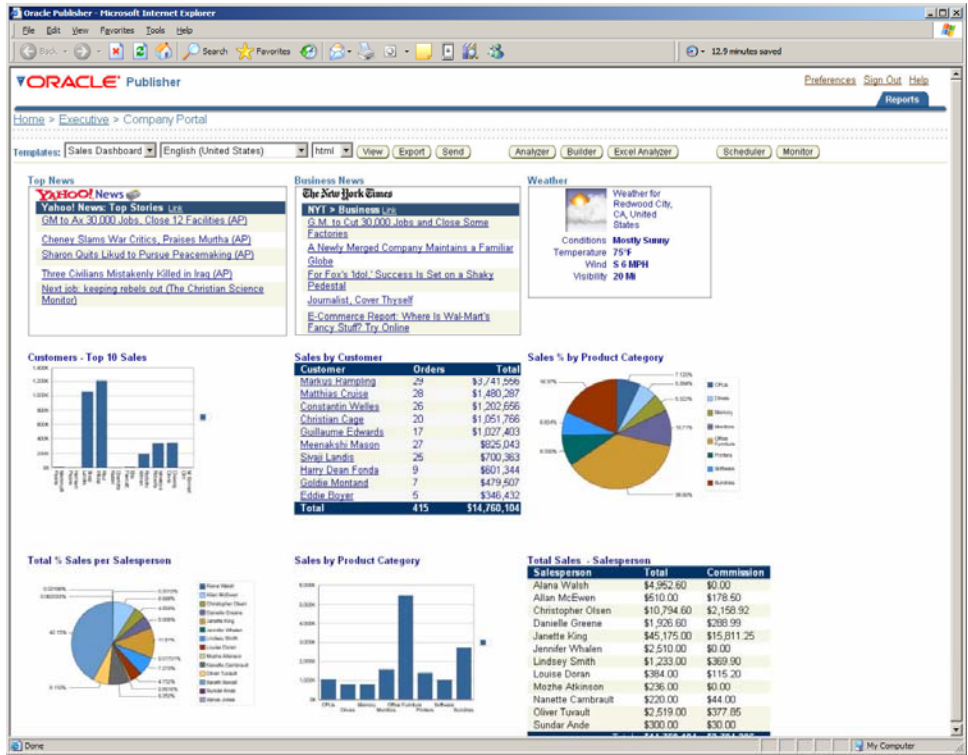


Figure 9 : An XML Publisher 5.6 Dashboard, Incorporating Multiple Feeds



Figure 10 : An XML Publisher Report Using Custom Graphics

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Also new with Oracle XML Publisher 5.6 Enterprise is integration with Microsoft Excel, and the ability to analyze data using a “Pivot Table”-style interface (Figure 11).

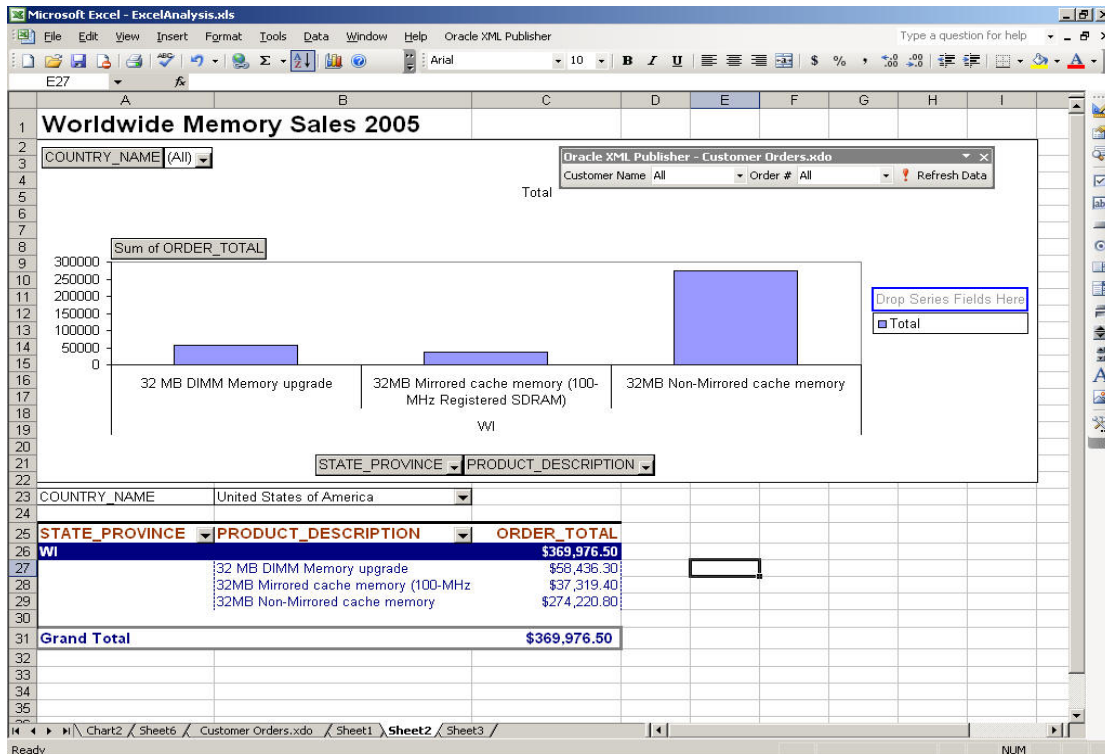


Figure 11 : Microsoft Excel Integration

The Microsoft Excel plug-in for Oracle XML Publisher 5.6 Enterprise allows the user to run an XML Publisher report from within Microsoft Excel, and then analyze the data using the familiar Microsoft Excel interface. By using Microsoft Excel to analyze your data, you can work with data published via Oracle XML Publisher offline, connecting back to the server when you need to refresh data. The Microsoft Excel plug-in uses the same security model as the online version of Oracle XML Publisher, and comes with a “parameters” toolbar that lets you manipulate your view of the data from within Excel. The Microsoft Excel plug-in utilizes Microsoft’s .NET Framework on the desktop and communicates with Oracle XML Publisher via a Web Services API.

For customers who wish to carry out OLAP-style analysis using Oracle XML Publisher, the new “Analyze” feature in Oracle XML Publisher 5.6 Enterprise allows you to build pivot table-style reports against both SQL and XML data (Figure 12).

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The screenshot shows the Oracle XML Publisher interface. At the top, there is a navigation bar with 'ORACLE Publisher' on the left and 'Preferences Sign Out Help' on the right. Below this is a breadcrumb trail: 'Home > Sales Manager > Sales Analysis'. A toolbar contains buttons for 'View', 'Export', 'Send', 'Analyzer', 'Builder', 'Excel Analyzer', and 'Sch'. Below the toolbar is a rich text editor with a font dropdown set to 'Sans Serif' and size '3 (Default)'. The main content area features a pivot table for the year 2000. The table is structured as follows:

		Sum of QUANTITY					
		Q1			Q2		Q3
		January	February	March	May	June	
CATEGORY_NAME	PRODUCT_NAME						
hardware2	Compact 400/DQ	\$4	\$0	\$0	\$0	\$0	\$10
	Inkjet C/8/HQ	\$12	\$0	\$0	\$0	\$0	\$0
	LaserPro 600/6/BW	\$0	\$0	\$44	\$71	\$70	\$0
	Compact 400/LQ	\$0	\$0	\$0	\$50	\$0	\$0
	Inkjet B/6	\$0	\$0	\$0	\$0	\$32	\$37
software4	SPNIX3.3 - UL/D	\$14	\$0	\$0	\$0	\$0	\$0
	SPNIX3.3 - DL	\$13	\$0	\$0	\$0	\$0	\$0
	SPNIX3.3 - NL	\$0	\$8	\$0	\$0	\$0	\$0
	SPNIX4.0 - SAL	\$0	\$10	\$0	\$46	\$0	\$0

Figure 12 : Using the Analysis Features of Oracle XML Publisher

This new feature uses a rich-client Java pivot table builder, that allows the user to drag and drop dimensions and measures onto the crosstab, format values and interact with the data. Oracle XML Publisher uses a “Smart Caching” feature on the server mid-tier to provide fast, indexed access to the data, and in addition minimize the load on the database server.

FOR REPORT ADMINISTRATORS

Oracle XML Publisher 5.6 Enterprise comes with a feature called “Security Center” (Figure 13) for maintaining users, groups and permissions.

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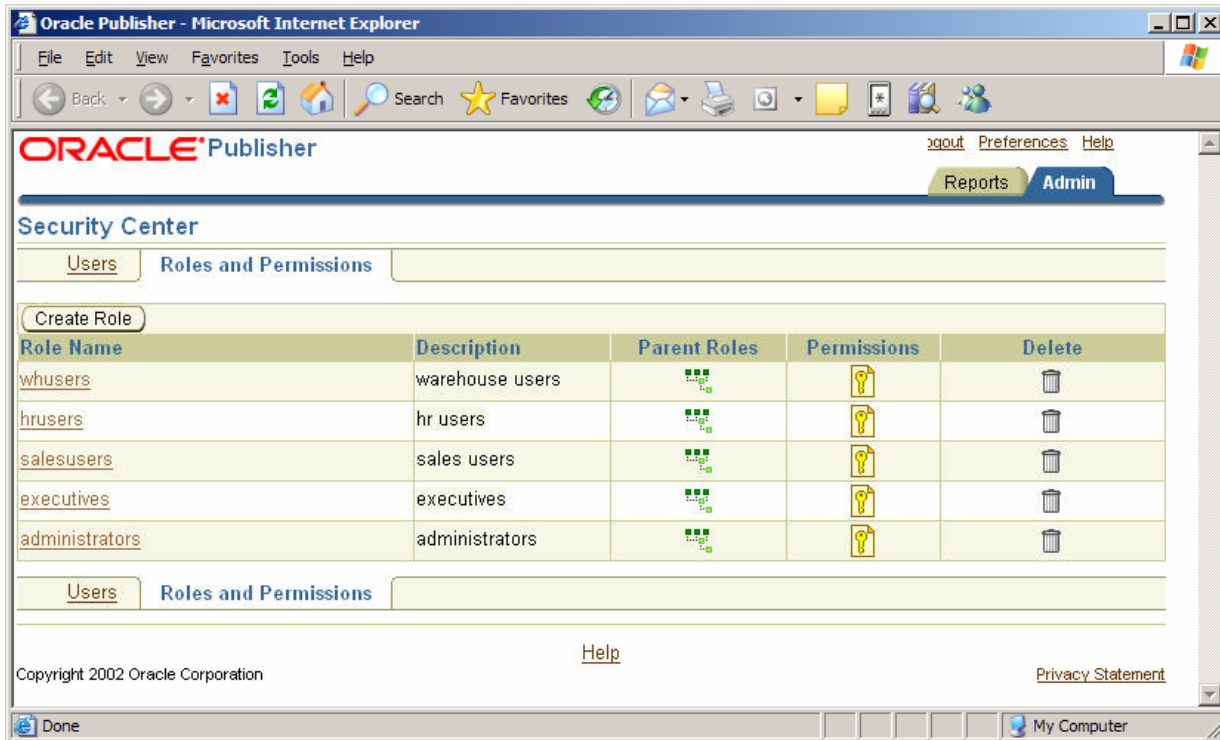


Figure 13 : The Oracle XML Publisher Security Center

User, roles and permissions information is stored in a lightweight LDAP server and gives the administrator the ability to specify in detail which reports users and groups can access.

Licensing

At the time of writing (January 2006) Oracle XML Publisher is licensed on either a per-processor, or per-employee basis, at \$40,000 and \$40 respectively. As with all questions around licensing though, you should check with your Account Manager or Oracle Representative for the latest pricing.

Summary

Oracle XML Publisher is the new reporting technology within Oracle Fusion Middleware. Initially launched as a standalone application back in Q4 2005, the new 5.6 release of Oracle XML Publisher includes a full suite of Web-based report building, viewing and administration tools, and now features OLAP-style access and integration with Microsoft Excel.

The SolStonePlus Difference

To obtain the absolute best from your data and investment in business intelligence technology you need an experienced partner you can trust, one who has done it before and with a credible set of references from well-known organizations in the UK, USA and Europe.

With over 20 years experience, SolStonePlus have an impressive pedigree with a wide range of successful projects and satisfied customers in most vertical markets across all business activities including sales, marketing, supply chain, CRM, finance, HR and manufacturing.

For more details on Oracle XML Publisher, and for up-to-date information on all aspects of Oracle technology, applications and education, check out the SolStonePlus website at <http://www.solstoneplus.com>, Mark Rittman’s Oracle Weblog at <http://www.rittman.net> and the Oracle Technology Network website at <http://otn.oracle.com>

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About the Author

Mark Rittman is Director of Consulting at SolStonePlus, and is Chair of the UK Oracle User Group Business Intelligence & Reporting Tools SIG. Mark was recently named “Oracle Magazine Editors Choice Oracle ACE of the Year 2005” and has worked with Oracle’s business intelligence & data warehousing tools since 1997.