

REPORT WRITERS

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Report writers, also known as report generators, are software programs that can be used to extract information from one or more files in an integrated library system, Web server, or other database server. Most report writers allow one to select records that meet specified criteria and to display the entire or selected content in a specified format: rows, columns, pie charts, bar graphs, or other diagrams. While report writers are most often used to print a report or list, it is becoming increasingly common to display the output on a “dashboard,” a user interface that organizes and represents information in a highly colorful way that is easy to read. A report writer may be part of a database management system or a standalone application software package.

While report writers have been available for more than three decades, librarians have been using them extensively only since the early 1990s. Library administrators use them to monitor a library’s performance and to provide information to a board, government agency, or the public. Public and technical services librarians use them to create lists of new acquisitions, subject bibliographies, pathfinders and other finding tools. While much of the wanted information may be in the scores of “canned” or standard reports provided by the vendor of an integrated library system or other information system, there often is a need to produce customized reports that focus on specific data and display the data in the most understandable format.

A report writer makes it possible to eliminate the chaff often found in “canned” reports by using authoring tools. It can be used not only to select specific data elements from records, but also to create exception reports. For example, a report can be limited to reporting circulation increases or decreases in excess of a specified percentage by location or changes in the number of Web server searches in excess of specified percentage over a period of time.

Both training—one to three days—and regular use are necessary to gain and retain expertise in the use of a report generator. For that reason, most libraries have found it better to designate a small number of staff to generate all needed reports rather than letting many staff members use the report generator for their specific needs.

Report writers may be acquired from any one of a score of software companies that produce the software or from the vendor of an integrated library system or other information system.

Major Commercial Report Writers

The most widely used report generators are those of Actuate, Business Objects, Cognos, Hyperion, Microsoft, MicroStrategy, and Oracle. With few exceptions, the report generators from these companies allow for specification of the data content of a report, including choice of titles, column headings, data elements, row labels, header and footnote content, and automatic or forced pagination. A wide range of data manipulation capabilities are supported, including the ability to calculate sums, differences, means, maxima, minima, mode, and cross correlation. They also offer a wide range of formatting options, including tabular and text presentation, column justification, column widths, number of lines per page, number of significant digits, paragraph indentation, page headers and footers, footnotes, underscoring, and overstriking. They offer flexible output modes, including printed text, printed graphics, video or Web display, magnetic tape or floppy diskettes, export as data files, or by e-mail to software applications. Most support WYSIWYG (What You See Is What You Get) formatting, meaning that output comes out looking like it did to the report's creator. Almost all have the ability to export information to Word, Access, Excel and other applications. There is the option of saving report generation specifications for future use.

Actuate (www.actuate.com) offers Actuate BIRT, a Java reporting tool based on the open source Eclipse Business Intelligence Report and Tools Project. The company not only participates in development, but also provides documentation and support for an

annual subscription fee. Actuate BIRT can be used for building and publishing reports drawn from SQL databases, XML data sources, EJB (Enterprise JavaBean), text files, or in-memory Java objects. Output can be in PDF, HTML, or CSV (Comma Separated Values) format—the last particular well suited for the output of tabular data). It conforms to WYSIWYG. A nice feature is the ability to customize the interface so that it includes or excludes functionality, thereby tailoring the front end to each user. The product is less easy to use and offers more limited customization than those of most of its major competitors. Pricing begins at a few hundred dollars for a single user license, but quickly rises to many thousands of dollars.

Business Objects (www.businessobjects.com) offers Crystal Reports. It supports XML and Microsoft's ADO.NET and ASP.NET. It is widely regarded as being the easiest to use and offering the broadest range of export options. It also rates high with regard to customization. The formatting display options are very professional looking. A nice feature is the ability to highlight specific information for end users. It supports WYSIWYG. A preview feature let's one look at and edit a report prior to its publication on the Web. Once one uses Crystal reports to generate a report at runtime, one does not have the option to let users edit or modify the report. The price begins at \$400 for a single user license for Microsoft Windows 2000 or XP, but it rises sharply for multi-user licenses and UNIX and Linux platforms. TLC uses Crystal Reports as the report writer for its CARL.X product.

Cognos (www.cognos.com) offers Cognos 8 Business Intelligence. It has over 23,000 customers worldwide and its product is the most widely used by libraries because it is high-rated with regard to ease of use, customization, and export formats. It supports Windows, UNIX, and Linux operating systems and is adaptable to any data source. It has one drag-and-drop authoring environment for creating all report types, including dashboards. Export formats include CSV, Excel, HTML, PDF, and XML. It is more expensive than the other products described in this TechNote, typically \$4,000 or more for a full single-user license. It also comes with more training, typically two to three

days, rather than one. Cognos has been selected by ExLibris for both its ALEPH and Voyager integrated library systems. It has also been selected by TLC.

Hyperion (www.hyperion.com/products) offers Hyperion System 9 BI, a product that is geared to financial, retail and manufacturing businesses that require great flexibility with regard to the manipulation of financial data. It supports almost all operating systems. It integrates well with Microsoft Office and can be used to create ad hoc reports that are then automatically run at specified intervals. It is easier to use than BIRT or Crystal Reports, but it shares the limited customization. Prices are quoted only on request, but they are quite high because the company targets large businesses.

Microsoft (www.microsoft.com) offers SSRS (SQL Server Reporting Services). It is fully incorporated into the company's SQL server at no additional cost. However, it requires a lot of computer resources. Users often find it necessary to purchase a dedicated server to run SSRS. The product is as easy to use as that of Cognos, and it is comparable to it in the range of export formats, including CSVV, Excel, HTML, PDF, and XML. WYSIWYG is not supported, meaning that a printed report appears differently than it did in preview mode. It is less customizable than most of the other report generators discussed in this section.

MicroStrategy (www.microstrategy.com) offers Enterprise Reporting. It is generally regarded as weak in data access. While it uses drag-and-drop authoring, it is somewhat more difficult to use, and is less customizable than the products of all but Actuate. It does not support WYSIWYG. However, it has excellent formatting and design tools for producing quality presentations. It is possible to create one report that the system automatically slices into the different views appropriate for different users. Pricing begins at \$3,000, exclusive of training. SirsiDynix has chosen MicroStrategy's software as the basis for its report generator.

Oracle (www.oracle.com/technology/products/reports) offers Oracle Reports Service as part of its database management system. It can access almost any data source

other than the Oracle database management system using ODBC (Open DataBase Connectivity), as well as text files, and XML. As Oracle is a widely used operating system, one would expect the report generator to be widely used. However, it is somewhat more difficult to use than the products from Cognos and Microsoft because some programming is required by those using the product. Its greatest strength is its customization and the large number of export formats, including PDF, RTF, XML, HTML, Excel, and several others.

Open Source Report Writers

There are scores of open source report writers, but the only one that appears to be in use by a number of libraries is LogiXML from FreeReporting.com (www.freereporting.com). It is not easy to use because there is no training available, nor is documentation extensive. The Web site identifies potential users as application developers, report designers, IT professionals, and other “power users.” However, there is a discussion forum that one may use to ask questions. The product supports any data source. It may be used to create any type of report: tabular-style, cross-tabs, charts and graphs. Reports may be published to the Web with HTML, Excel, Word, or PDF. Free downloads are available.

Integrated Library Systems Vendors and Report Writers

As of mid-2007, Every major vendor of integrated library systems offered a report writer or had one in development in addition to its hundreds of “canned” reports. A majority have selected a third-party product from one of the major producers described in the previous paragraphs. A minority have developed their own report writer.

ExLibris (www.exlibrisgroup.com) offers Cognos as an optional report writer for both its ALEPH (ARC—ALEPH Reporting Center) and Voyager (Analyzer) integrated library systems. It is identical to the product available from Cognos, but it is fully integrated with each of the integrated library systems. The report generator can be used

to use ad hoc reports in the system as a template for custom reports. Pricing is based on the number of volumes in the collection. Two to three days of training are recommended. As Cognos licensing is complex, especially when multiple users of the software are to be licensed, it is a good idea to compare ExLibris and Cognos pricing before making a purchasing decision.

Infor (www.infor.com) was completing development of its SSP (Select.Sort.Publish) as a fully bundled component of its VUBIS integrated library system as of mid-2007. Its capabilities are expected to be comparable to those of MicroStrategy's Enterprise Reporting product except it is not possible to use the report generator to use templates to create new ad hoc reports from "canned" reports. There is no charge for the product, but one day of training is recommended.

Innovative Interfaces (www.iii.com) offers a report writer that has three complementary reporting tools: Web Management Reports, Millennium Statistics, and Create Lists. The first lets staff analyze transaction based information from different areas of the system. Standard reports may be used as templates to create custom reports. They can be displayed as a table, graph, or pie chart and can be exported into an ASCII delimited format for incorporation into a spreadsheet or other software program, or to a printer. Millennium Statistics is available from within each Java-based staff module. It is a more flexible alternative to the standard statistical reports common to most integrated library systems. Create Lists lets staff create lists based on virtually any information contained in records. Innovative bundles pricing when it submit a bid, therefore, it is not possible to determine how much of the quoted price is attributable to its report generator. Training typically is one day.

Polaris (www.polarislibrary.com) introduced its SimplyReports in the spring of 2007. It developed the product and offers it as an option at a price beginning at \$3,000. It lacks many of the data manipulation and formatting options common to report generators. Instead, it provides the capability to export records produced in SimplyReports to Excel or Word, or any application capable of accepting a tab, comma,

or other delimited file. The report generator can be used to create ad hoc reports for future production as specified intervals. No live training is offered, but there is a two-hour video training package supplied within the purchase price.

SirsiDynix (www.sirsidynix.com) has, in the past, stressed that no separate report generator is required to modify and generate variations on any of the hundreds of reporting templates delivered with the Unicorn system—a system renamed as “Symphony” effective in late 2007. The system includes over 500 report templates that can be used to create customized reports using the WorkFlows staff client. However, the number of formatting options is limited and header and footnote contents are not accommodated. For libraries that want a report generator, SirsiDynix has developed WebReporter, a product that utilizes the MicroStrategy software. The data access weakness of MicroStrategy is not an issue in this case because SirsiDynix has integrated the reporter software with its WorkFlows clients. It has all of the features of the MicroStrategy software, but there are licensing levels that determine which are activated for a customer. Pricing begins at \$3,350 for a single user license, however, a license that offers every level of user privilege begins at \$5,940. Annual maintenance is 18 percent per year of the purchase price. There is a Web conference-based training suite available at a cost of \$1,200.

TLC (www.tlcdelivers.com) offers Cognos as its report writer for Library.Solution and Business Objects’ Crystal Reports for its CARL.X integrated library system product. Each has the functionality previously described in this TechNote. The price for Cognos is \$3,200, including training for a single-user license. The vendor does not unbundle its software pricing, therefore, it is not possible to ascertain what the price is for Crystal Reports .

VTLS (www.vtls.com) does not offer a report generator, but it recommends Oracle Discoverer, a simpler version of Oracle Report Services. one that does not require programming. It appears to be most like MicroStrategy’s Enterprise reporting. The

product is not supplied by VTLS, but must be obtained from a local distributor of Oracle products or downloaded from Oracle's Web site.

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