

Reporting Architecture and JD Edwards EnterpriseOne

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Reporting Architecture and JD Edwards EnterpriseOne

JD Edwards EnterpriseOne reporting architecture gives you flexibility, capability and usability.

EXECUTIVE OVERVIEW

Reporting is an important part of any ERP implementation because businesses have hundreds or even thousands of reports that they create and maintain. JD Edwards EnterpriseOne reporting architecture gives you flexibility, capability and usability in creating the reports you need to run your business.

Because JD Edwards EnterpriseOne has historically tied reporting very tightly to the batch engine, the discussions around reporting have focused primarily on the differences between the required output types. With increased JD Edwards EnterpriseOne reporting capabilities, including Oracle XML Publisher integration, you can view reporting using four process components. This white paper examines the intersection between reporting business process and report output requirements and how this moves JD Edwards EnterpriseOne toward more flexible, capable and usable reporting.

GOOD REPORTING PROCESS = GOOD REPORTING OUTPUT

To improve output capability it becomes important to examine opportunities from process improvement.

No matter what type of report output is required, there are specific business processes that determine how efficiently and effectively the creation of output is accomplished. Although the business is typically focused on the output itself, “I need better looking invoices” or “We need to understand what is happening in a specific division”, the path to getting there runs through the process used to create the output starting at the point of choosing what data should be included and moving all the way through to generating the end document or browser content. Therefore, in order to improve output capability or quality it becomes important to examine not only the output requirements themselves but also the processes used to create those reports. Improving process across the board while keeping the intended output in mind results in better reporting infrastructure which results in better reporting output: better process = better reports.

REPORT OUTPUT TYPES

Reporting requirements in JD Edwards EnterpriseOne have traditionally centered on the creation of specific report output types:

- **Operational Documentation** – Documents used as part of day to day operations internally.
- **Customer Facing Documentation** – Documents that are given to or viewed by customers and which, as a result, require professional looking formatting.
- **Ad-Hoc Reporting** – The process of creating a query and a report without the need for a development skill set or life-cycle management, the results of which answer a specific, often one-off, question.
- **Financial Reporting** – As distinct from the other areas, financial reporting may be either one-off or periodic in nature. The differentiation here is the fact that it requires an underlying understanding of corporate financial structures, although the output types are similar to the other report types.
- **Regulatory Reporting** – As distinct from the other areas, regulatory reporting must meet requirements that are generated externally. The differentiation here is the fact that it requires compliance to government standards that may change unexpectedly over time.
- **Analytics** – The process of creating reports that show performance of a business and that output either to physical media or, more often, to electronic distribution channels such as dashboards.

REPORT CREATION PROCESS

The creation of those reports, regardless of end type, requires the execution of several processes. Breaking these out into individual components, rather than having them all handled as a single monolithic process, creates opportunity for process improvement and enhanced reporting capability.

- **Extraction** – The process of extracting data from the data source whether this is live transactional data or data stored in a mart or warehouse.
- **Transformation** – The process of transforming data into consumable formats. For the sake of clarity, transformation in this context will refer to data transformations that are required at the time a report runs.
- **Publication** – The process of creating consumable output from the extracted and transformed data whether in the form of physical media or electronic content.
- **Distribution** – The process of delivering a publication to the desired audience through a defined channel, such as to a printer, email, or electronic.

Table 1 displays the relationships between report processes and types used today with JD Edwards EnterpriseOne.

Table 1 – Report Creation Processes vs. Report Output Types

		Report Creation Process			
		Extract	Transform	Publish	Distribute
Report Output Types	Operational Document Creation	Because most operational documents are static over time the extraction can be built once and reconfigured only seldom.	Transformations here are rare as the data typically exists in a consumable format prior to extraction.	Publish here is often a low priority in terms of document layout or quality.	Distribution is typically pre-known and static over time.
	Customer Facing Document Creation	Because most customer facing documents are static over time the extraction can be built once and reconfigured only seldom.	Transformation considerations tend to focus on language output. For example, translating the extracted data into a second language.	This is the key. The ability to create a well-formatted, professional looking document is essential.	Most often a single document to a specified printer, But when run as a batch, or if delivery via email is required, then there may be other electronic distribution requirements.
	Ad-Hoc	Extraction mechanisms are the key for ad-hoc reporting. They require a view of the data that is secure, readily understood by the business user and intuitive.	Transformations that may apply to ad-hoc reporting are typically more specific to financial reports.	Publish considerations are most often comparable to the creation of operational documents.	Distribution is typically to a small audience and most often via electronic means.
	Financial Reporting	Extraction mechanisms are similar to ad-hoc reporting because there is a slice of financial reporting that is inherently ad-hoc	Transformations are essential to an understanding of the financial structures of customer organization.	Publish considerations are broad depending on the requirements of periodic versus ad-hoc type financial reports.	Distribution is typically to a small, well-controlled audience.
	Regulatory Reporting	Data extraction is typically static as the required data set is pre-established and changes only infrequently	Transformations are determined by external requirements and may range from simple language translations to XML formats.	Publish considerations are crucial because the document output is mandated by government regulations	Distribution is of equal importance as it is again mandated by externally driven requirements
	Analytics	A sophisticated power user who defines the data set that is required, and who then writes the extractions required, typically carries out extraction, most often from a data warehouse or data mart.	Transformations are typically the key here whether in the form of data marts, full-blown data warehouses or post-extraction data manipulation.	Publish is typically electronic, to a dashboard or portal.	Distribution is typically dashboard/portal driven. The dashboard or portal rather than the reporting tool handle print requirements here.

Note: This table represents the intersection of report process and output types. Cells highlighted in red show key process components for respective output types. For example, for *Customer Facing Documents*, *Publish* is primary because the governing requirement is to produce a professional looking document. However, with *Ad-Hoc Reporting* the key process is *Extraction* because the driving requirement is secure, business-user access to data.

REPORTING TRENDS FOR ORGANIZATIONS

Movement Toward More Open Reporting

Changes introduced, beginning with JD Edwards EnterpriseOne Tools 8.95, have created a very complete reporting ecosystem for businesses and other organizations.

Traditionally, JD Edwards EnterpriseOne customers have relied on the UBE (Universal Batch Engine) for data extraction, transformation, publication, and distribution. JD Edwards EnterpriseOne Tools 8.94 offered out of the box integration with Business Objects Crystal Reports. This integration introduced a new mechanism for data extraction - the Crystal Connector. With JD Edwards EnterpriseOne Tools 8.96 and the introduction of XML Publisher new options for transformation, publication and distribution were introduced. These changes were initially introduced to address the needs of specific output types and customer facing documents. Beginning with JD Edwards EnterpriseOne Tools 8.95, opened the door for a more complete reporting ecosystem.

Integrated vs. Extended

It would be unrealistic to think that any ERP system could provide all of end users reporting needs solely leveraging embedded functionality. For this reason it becomes imperative to provide a combination of embedded tools and standards based connectivity to be able to leverage extended functionality and applications.

Process components that operate outside of the UBE will continue to be developed. It becomes evident in the descriptions below that delivering new functionality in one process area has benefits across multiple reporting output types. Additionally this allows for significant consideration regarding which pieces of the reporting ecosystem need to remain fully contained within a JD Edwards EnterpriseOne embedded solution and which pieces should be enhanced as part of an extended solution.

- **Operational Documentation** – Because these documents generally remain static over time, both from a process and output standpoint, the UBE has generally provided adequate functionality for these reports. While this approach will continue to be supported the additional process improvements provided by XML Publisher will introduce new options for the creation of operational documents.
- **Customer Facing Documentation** – The introduction of XML Publisher allows for continued enhancement of functionality around transformation, publication and distribution. As such, these capabilities will be built and expanded as part of the integrated reporting solution. (Because the key requirements for Regulatory Reporting are also dependant on these three processes this is another example of where improvement in single process area can deliver benefits across multiple output types.)
- **Ad-Hoc Reporting** – Although UBE is a powerful extraction engine it is not readily accessible by end business application users. As extraction is the key process governing ad-hoc reporting capabilities any extended ad-hoc

reporting solution will require the development of new tools for data extraction that have an inherent understanding of JD Edwards EnterpriseOne security and data structures. The long term intent for Ad-Hoc reporting is to continue to deliver embedded functionality while at the same time working to “open up the box” to provide customers with standards based, secure connectivity that will allow them in turn to leverage extended solutions.

- **Regulatory Reporting** – By continuing to expand the transform, publish and distribute capabilities of the XML Publisher solution the reporting requirements around Regulatory Reporting will remain a part of the integrated reporting solution. The ability to directly import regulatory forms into JD Edwards EnterpriseOne in the form of XML Publisher templates will greatly simplify this process.
- **Financial Reporting** – Financial reporting spans a wide spectrum of customer use cases ranging from ad-hoc, one-off queries to full-blown strategic analytics. As such there will be components of financial reporting that will remain embedded within JD Edwards EnterpriseOne, such as simple tabular reports, while other capabilities will be delivered as part of the extended solution. With Oracle’s recent acquisition activity we will be looking very closely at creating pre-packaged integrations to extended solution such as OBI and the Hyperion tool set. This requirement will also drive ongoing enhancements across the extraction and transformation process sets as any extended solution for financial reporting will require an understanding of some of the proprietary pieces of JD Edwards EnterpriseOne data.
- **Analytics** – Analytics is another reporting area that will realize enhanced functionality with the delivery of extended extraction tools. With the ongoing development of Oracle Fusion, JD Edwards EnterpriseOne will look for opportunities to leverage the extended feature of the Oracle Business Intelligence application set. At the same time the continued roll-out of operational consoles will deliver on embedded analytic capability.

JD Edwards EnterpriseOne Tools 8.97 extends XML Publisher integration and adds several new features that extend the power of this reporting solution.

THE FUSION PATH WITH JD EDWARDS ENTERPRISEONE XML PUBLISHER

With JD Edwards EnterpriseOne Tools 8.96 components of Oracle's XML Publisher (Oracle Business Intelligence Publisher as a stand alone product.) were embedded in JD Edwards EnterpriseOne. JD Edwards EnterpriseOne Tools 8.97 extended this integration with additional features:

- Create a report definition that identifies the relationship between the UBE output and report templates. By creating this definition up front the process is able to be run end to end without the need for interim manual steps.
- Archive the XML output of a UBE. By leveraging the extraction power of the UBE and storing the XML it becomes possible to run multiple reports, leveraging multiple templates, against a single extract. This XML archive is used as a data source to republish different report variations making this an option for ad-hoc reporting.
- Oracle Business Intelligence Publisher a foundational component of Oracle's Fusion reporting. By embedding XML Publisher components in JD Edwards EnterpriseOne and opening the reporting architecture customers will be able to grow their solution in parallel to the growth of their organization and access Oracle's industry leading technology incrementally as need arises.

CONCLUSION: FLEXIBILITY – CAPABILITY – USABILITY

Useful report outputs are a result of effective report processes. By taking the four process components extract, transform, publish, and distribute and separating them from dependence on the UBE JD Edwards EnterpriseOne reporting options are more flexible than ever before. Leveraging XML Publisher has added new capabilities and made the creation of professional documents easier and more usable than previously possible. As customers come to discover the usefulness of this new functionality, and as their reporting needs continue to grow, the separation of reporting processes will allow for the delivery of extended reporting functionality faster and more efficiently. Process driven, results oriented, open and scalable: JD Edwards EnterpriseOne reporting.

ACRONYMS

UBE Universal Batch Engine



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