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A White Paper by

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“91% of organizations’ IT expenses are related to maintenance and operations. That leaves only 9% for innovation.” – Gartner Research

[EMPOWERING BUSINESS USERS – DATA IS KING]

Extracting a defined set of data from SAP is something ordinarily left to IT departments. Traditional solutions include either writing a custom program or a creating a report in ABAP. Business users and data owners often need to make decisions and require quick analysis of their data. By empowering users to extract their own data and create their own reports, business decisions can be made quickly and based on correct data, improving overall business performance.

[Abstract]

In this fast-paced world consumers are only one-click away from moving over to the competition. Keeping one-click ahead of the competition means having the ability to make accurate and timely decisions. What is needed to make these decisions? A secure way to access up-to-date data in a useable format. Empowering the internal customer to extract this data quickly and easily is just as important as satisfying the external customer with immediate solutions. Identifying a way to meet this need will have a positive impact on business & revenue goals. Productivity within the IT staff will be increased and support & maintenance will be decreased.

[Introduction]

Effectively managing the IT budget while meeting the many demands required to run and support the business units can be challenging. To properly prioritize the multitude of requests that come through, each request must be evaluated on the basis of return on investment. Usually the requests that have the greater ROI are of higher complexity. Less complex reports are equally important to the business users, but they tend to get pushed to the bottom. Maintenance of these reports appears even further down the list of priorities.

Having current data available at a moment's notice is vital to the success of a business' rapidly changing work environment. The ability to make decisions with up-to-date data will empower users to improve their performance. Proper data analysis enables them to identify issues in a timely manner, develop a valid action plan, and respond effectively to customer, vendor and internal queries.

IT departments have the highly skilled staff that is able to take on the reporting and extraction functions required by the business. This data control can create restrictions, delays and pressure to take on responsibilities that distract from their main areas of expertise. As a result, IT professionals lose maximum effectiveness because they are now taking on more support and maintenance leaving little room for innovation. Business users lose maximum effectiveness, because the waiting period does not allow for a proactive approach nor can they stay on task to finish responsibilities to completion.

A product is required that will allow IT personnel to work on the more complex requests needed for the business to operate more effectively, and empower the users to extract the data required to make their decision making more productive.

[The Solution]

Qubed is a powerful data extraction and reporting application that empowers business users to retrieve live data into a familiar spreadsheet or database format for immediate analysis and action. Users are familiar and comfortable working with Excel or Access, and with a minimal amount of training these tasks can become an easy and familiar routine.

A simple extract query can be created in a matter of minutes, either by recording a transaction, or selecting tables from which to extract the data using a drag-and-drop approach. Qubed allows both standard SAP and custom Z-tables to be selected for use in a query. When creating a query by using the transaction recording functionality, all the fields marked during the recording are automatically brought into the query. The query can then be executed and the resulting data can be stored in an Excel or Access file. Qubed will take into account the user's authorizations within SAP and will not allow a user to record a transaction they are not authorized to access. Qubed also offers an additional layer of security within the product that allows the restriction of certain tables to be used within Qubed, even if they can be used from within SAP.

Complex data queries can be created in the same manner utilizing fields from across multiple tables, and allowing for inner and outer joins. Selection criteria can be added to the query without the technical knowledge required to develop an ABAP program. Automatic joins are placed in the query if a direct connection exists in the data dictionary, or a join can be manually added.

Two modes are available to view the tables and field names: Expert Mode and End User Mode. The Expert Mode will display the tables and fields using the technical names from the SAP Data Dictionary, while the End User Mode uses the table and field descriptions from the SAP Data Dictionary.

The challenge of mixing a user's ability with their need to access the required data has been addressed by offering a Professional and a Business version of Qubed. The Professional version, designed for the user with more a little more data dictionary knowledge, allows for the creation of queries and reports as well the ability to execute them and save the output. The Business version on the other hand only allows for the execution of what has been created by a user of the Professional version. The Business version also allows for new reports to be created based on the predefined query.

Qubed uses standard SAP RFC's (remote function calls) to communicate and download information from SAP and is a SAP Certified Integration Solution. Creating an extract query can be as easy as 1-2-3:



1. Record Transaction

The recording step consists of launching an SAP transaction from within Qubed. As the screens of the transaction are processed, each field that is utilized during the recording is able to be selected for extraction. This process does not require the user to know the specific table names and fields names they wish to extract data from. After the recording is completed, Qubed will automatically determine this information and presents it to the user within the Query Builder.

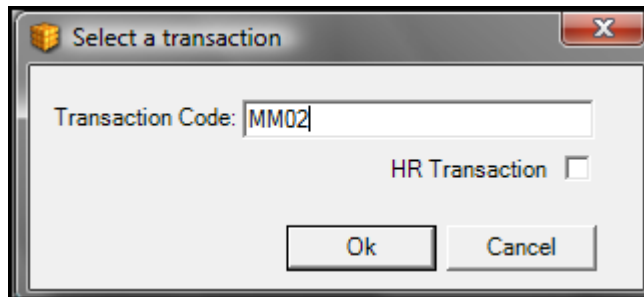


Figure 1 - Recording a Transaction in Qubed

2. Create Query

Once the recording is complete all the fields that were marked and their associated tables are brought into the query builder. At this point the user can select additional fields to be extracted, and can also select selection criteria and sorting options. Once the query is complete, a preview of the data can be run to ensure accuracy, and then the data can be downloaded into the preferred format.

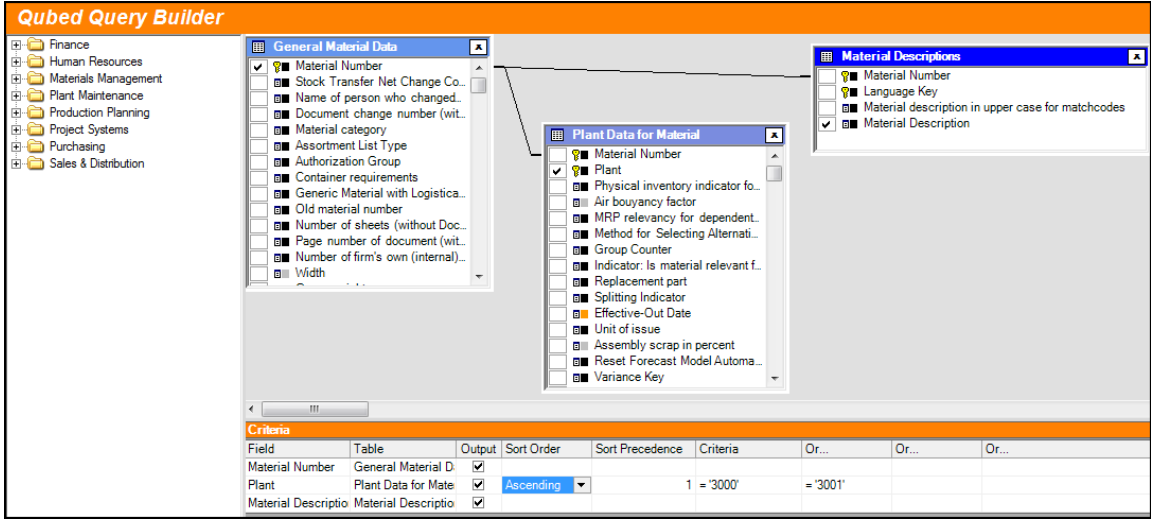


Figure 2 – Creating Query in Qubed – End User Mode

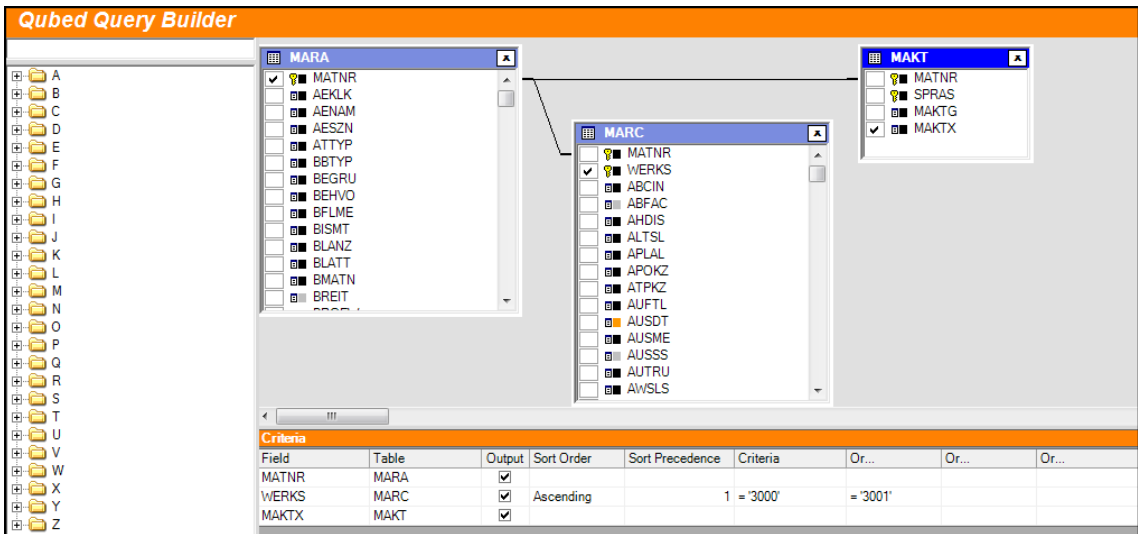


Figure 3 – Creating Query in Qubed – Expert Mode

3. Download Data

Once the query is complete, the data can then be extracted into an Excel spreadsheet or Access database. This output file can also be emailed when the extraction is complete.

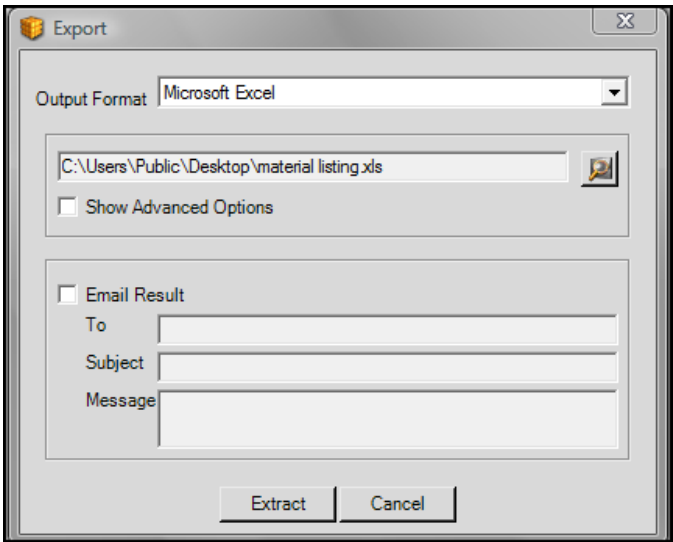
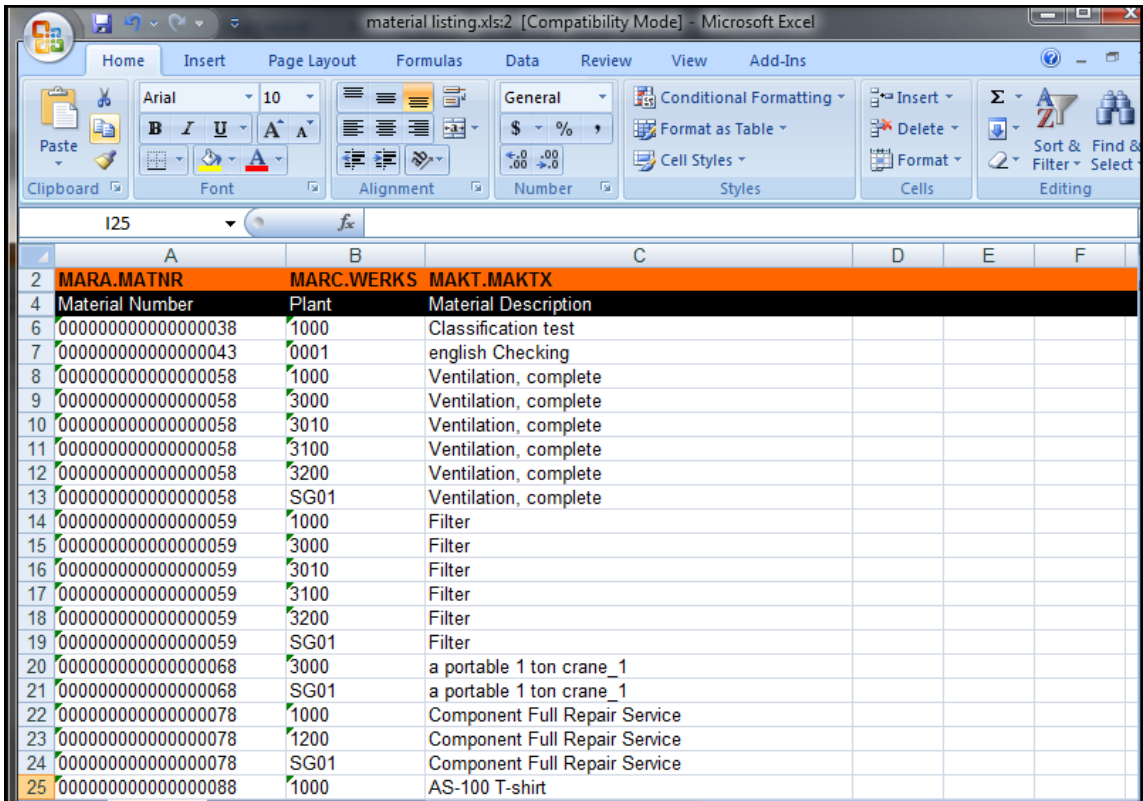


Figure 4 – Qubed Export Screen



| Material Number | Plant | Material Description |
|----------------------|-------|-------------------------------|
| 00000000000000000038 | 1000 | Classification test |
| 00000000000000000043 | 0001 | english Checking |
| 00000000000000000058 | 1000 | Ventilation, complete |
| 00000000000000000058 | 3000 | Ventilation, complete |
| 00000000000000000058 | 3010 | Ventilation, complete |
| 00000000000000000058 | 3100 | Ventilation, complete |
| 00000000000000000058 | 3200 | Ventilation, complete |
| 00000000000000000058 | SG01 | Ventilation, complete |
| 00000000000000000059 | 1000 | Filter |
| 00000000000000000059 | 3000 | Filter |
| 00000000000000000059 | 3010 | Filter |
| 00000000000000000059 | 3100 | Filter |
| 00000000000000000059 | 3200 | Filter |
| 00000000000000000059 | SG01 | Filter |
| 00000000000000000068 | 3000 | a portable 1 ton crane_1 |
| 00000000000000000068 | SG01 | a portable 1 ton crane_1 |
| 00000000000000000078 | 1000 | Component Full Repair Service |
| 00000000000000000078 | 1200 | Component Full Repair Service |
| 00000000000000000078 | SG01 | Component Full Repair Service |
| 00000000000000000088 | 1000 | AS-100 T-shirt |

Figure 5 – Resulting Excel Spreadsheet

[Product Features]

Qubed has the following core features:

Recording Interface - The recording interface will take a user screen by screen through an SAP transaction and add the fields they mark to a Qubed query. This utility will attempt to resolve SAP structures to SAP database fields. The user is not required to know the SAP table or the field names containing the data to be extracted. (Y & Z tables are also accessible)

Structure Lookup - By entering an SAP screen number, structure name and field name, the related SAP database table and fields that are updated by that structure will attempt to be returned. The results can be added to an existing or a new query within Qubed.

Table and Field Selection - The end-user mode of the Qubed interface organizes data according to the modules in SAP that users are familiar with. An SAP table list is displayed using SAP Data Dictionary descriptions allowing end users to see friendly names for tables and fields. Qubed's expert mode allows those users with more knowledge of the Data Dictionary to work with the standard SAP table and field names.

Table Joins - Qubed has the ability to create inner and outer joins between tables. Table joins that are defined in the data dictionary will automatically be brought into the query builder. Manual joins may be created as well.

Security - Qubed provides an additional layer of security over and above the security in SAP. Users can be restricted from accessing certain tables. Even if the user has access to the tables in SAP, the administrator can restrict data extraction from these tables within the application. The administrator can also limit the number of records returned and the number of tables that are allowed per query.

Reporting - Along with being an extraction product, Qubed also provides powerful report writing and export functionality. The report writer is simple to use for creating basic reports or creating impressive, interactive reports with logos and pictures. Reports can be exported in the form of 'PDF', 'HTML', Text or Rich-text files. For convenience, these reports can also be emailed.

Log Views - With the log viewer an audit trail is provided of all the extractions and reports that have been run. The entries are detailed, showing the time and date of the action performed, user information, extracted file locations, etc.

Scheduler - A data extraction or the generation of a report can be scheduled to run unattended at any time in the future. This allows for the automatic creation of an HTML file that is available for viewing via the web. The scheduler can also be used for auto-updating an Access database that can be used to analyze the data.

[Conclusion]

To summarize, Qubed is a software solution that can increase the productivity of both the business user and the IT resource. Out-dated data, tight budgets, critical timelines and inexperienced staff will no longer be a hindrance for quick, quality data extractions and reporting. Qubed is simple to use and business users can be using the product for live data retrieval in no time. Qubed increases the return on investment in enterprise software implementations by reducing employee training costs, allowing for better decision making, and maximizing the usefulness of valuable IT resources.

[About Quadrate]

Quadrate is a software development company specializing in software products that enable both end users and IT staff to work with their ERP systems more efficiently. Quadrate's current product suite facilitates Data Loading, Data Extraction and Reporting for SAP Solutions R/3®. All of our products are unique in that they provide end-users with the ability to perform tasks normally left to highly skilled IT staff.

Quadrate as a company has the goal of taking the best innovations of the major software manufacturers and making them faster and more effective for non-technical users. We draw on superior technology, deep industry experience, proven methodologies and strategic partnerships to increase the return on investment and competitive advantage of our clients.

Headquartered in Cincinnati, Ohio, with a presence in Germany, France and the UK, we will be expanding soon into other European countries, Australia and South Africa.

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