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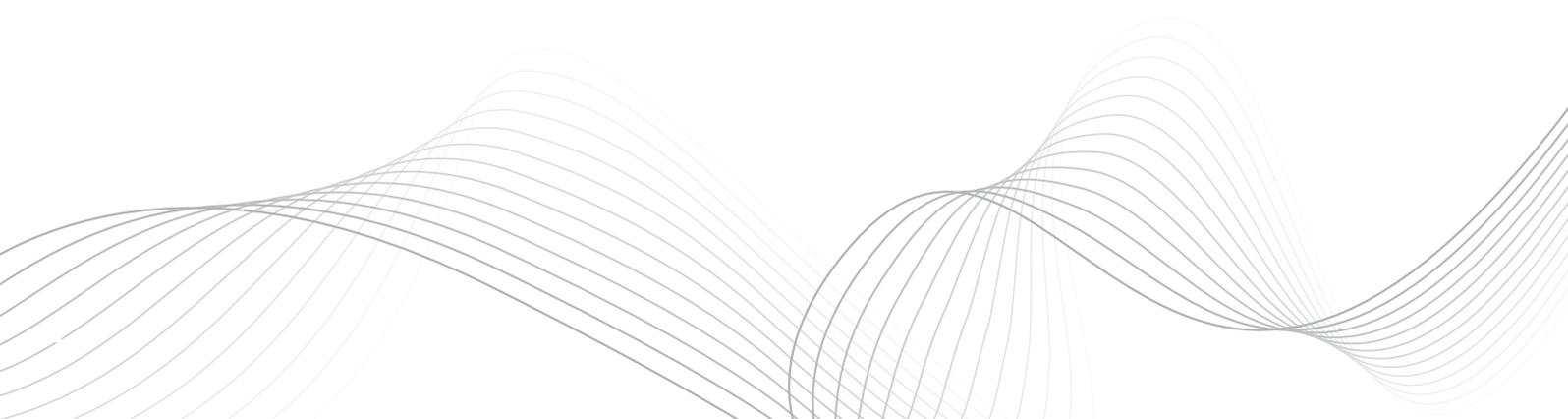
Whitepaper:

# Cost Analytics with the Jedox BI Suite

How to Control Costs by Using  
Business Intelligence

# Contents

|  |    |
|--|----|
| Summary  | 3  |
| 1. Process costing: An overview                                    | 4  |
| 2. Cost accounting and analysis with business intelligence         | 5  |
| 3. Implementing process costing with the Jedox BI suite            | 6  |
| 4. Reducing costs with open-source business intelligence solutions | 10 |



# Summary

To be able to keep costs down over the long term, it is necessary to identify cost drivers and monitor these using on-going, target/actual variance analysis. Because only when you have your costs under control are you able to efficiently and effectively manage your processes and resources. Business intelligence-based controlling solutions are flexible instruments for analysing SAP, Navision, or other data sources. By automating your reporting processes, you can ensure that information is available quickly and easily. And by using BI solutions that provide an Excel front-end, users can continue to work in a familiar environment, and thus reap a number of benefits.

This whitepaper deals with the design and implementation of process costing using open-source business intelligence. In the first part, we will deal with the structuring of the required dimensions and the OLAP cube, defining elements and attributes, using and designing rules and defining the loading process. In the second part, we will show how to implement the concept we developed in the first part of the paper by using the Jedox business intelligence solution.

# 1. Process costing: An overview

The pressure on companies to reduce costs is increasing significantly in all market segments. A detailed knowledge of the company's own added value, from resources to products and customers, is therefore essential for providing optimum financial control of a company. Only when companies are well informed about their own cost structures, processes and customers can they hope to realise any competitive advantages.

Traditional cost accounting systems are quickly pushed to their limits because they cannot adequately divide a company's business costs according to actual consumption. Instead, the best they can do is allocate these expenses to cost objects according to fixed rates. Such an inaccurate allocation of costs may lead to a false impression of the profitability of the company's services, products or customers. In the worst-case scenario, important decisions about investments or divestments can be made incorrectly.

Process costing seeks to eliminate such deficiencies. Under such a system, products and customers only bear the costs they have incurred. Costs that are not directly allocatable (e.g. for marketing, administration or development) are divided amongst the relevant cost objects using assessed internal services or processes. The division of costs is independent of cost centres, so is cross departmental. The company's costs, taken from an operational transaction system such as SAP, are transferred to the internal services using a quantity structure. External services are also taken into account in completing this transaction. These services, in turn, bundle the company's products, for which costs can also be offset using the Quantity x Price relationship. At the end of the consumption and clearing process are the customers, who purchase certain quantities of a product.

By precisely allocating costs, exact statements regarding the profitability of cost objects can be made at the different stages of the clearing chain. By using product and customer-oriented contribution margin calculations, companies can gain valuable information for their market cultivation strategies.

It is also possible to achieve insights into the efficiency of internal processes and activities so that optimisation measures can be derived.

With process costing it is hoped the following goals will be achieved:

- **Greater cost transparency in indirect service areas**

Analysis of indirect service activities should show which overhead costs should be covered by the cost centres for various activities.

– **Determination of internal company costs**

Every service used must be recorded and evaluated. For services that are billed in-house, rates are established and then used as the basis for completing clearing transactions. The advantage here compared with flat-rate costings is that the costs incurred are charged to the actual cost object(s) involved. Also, only the services or products consumed are actually cleared.

– **Variance analyses**

By carrying out more exact planning and clearing of data, it is possible to perform target/actual variance analyses that are more meaningful for the controlling department.

– **Appropriately charged product costing**

As with internal activity allocation, product costs should also be appropriately divided among those actually consuming the product. To this end, cost drivers are drawn up and used for billing and clearing.

## 2. Cost accounting and analysis with business intelligence

When realising complex and extensive costing logic for cost allocations, Excel-related solutions quickly run out of steam, because it is very difficult to appreciate the dynamic reality that exists in companies by just looking at a spreadsheet.

This is why companies often rely on specialist software solutions so that they can perform activity-based costing transactions with a reasonable amount of effort.

When it comes to business intelligence there are also a number of very interesting software packages available. On the one hand, these contain data integration tools that can be used to extract basic information from operational systems (such as SAP) and load this into a billing model. This can also be used to outline the billing logic of a model. On the other hand, the analysis and reporting functions of these software systems give users the ability to analyse the results of these models and provide this information to accounting managers and other individuals with financial responsibilities in the form of reports.

## 3. Implementing process costing with the Jedox BI suite

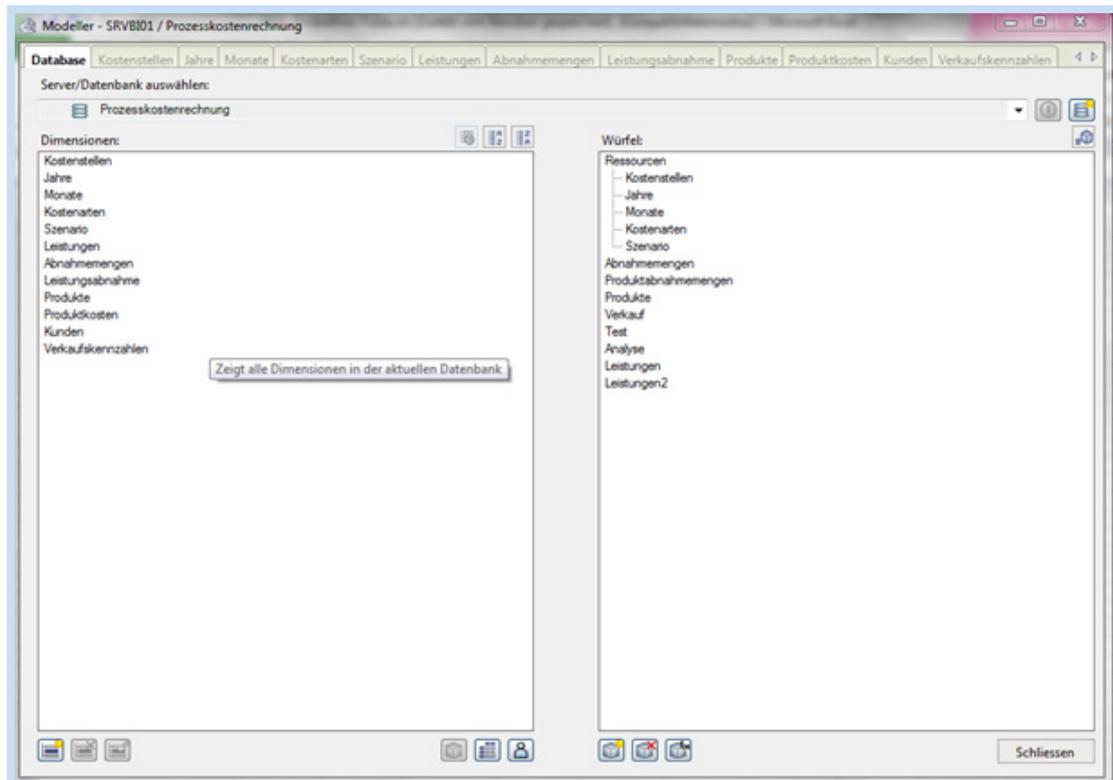
The Jedox BI Suite is a good example of a BI software package that is well suited for implementing activity-based costing. Jedox also offers an open-source based software suite for analysis and reporting. The core element of the suite is its in-memory database that stores data in the form of dimensions and cubes.

One enormous benefit of using Jedox is that it is designed for professional users. Thanks to an Excel plugin, it is possible to work within a Microsoft Excel interface while still benefiting from using OLAP analysis. This means reports and evaluations based on an OLAP cube can be quickly and easily created in this familiar and trusted MS spreadsheet environment. This gives users the ability to independently develop, process and distribute reports and analyses while reducing the need for IT involvement to a minimum.

A further important feature in Jedox is the ability to write data to the OLAP cube (write-back function), a function that enables the implementation of enterprise planning applications. Thus Jedox provides a couple of clear advantages: There is no longer any need to manually consolidate Excel files. Plus, by using Jedox's own distribution mechanism, it is also possible to significantly streamline the planning process.

This open source-based software solution has numerous interfaces for connecting to databases and ERP systems (e.g. SAP). Its in-memory OLAP database offers extremely good performance and by using its optional GPU technologies, even enormous amounts of data can be efficiently and effectively processed.

The following cube must be set up in Jedox to make use of the process costing model:



### Resources

The Resources cube contains important master data that is used for allocation purposes. The cube has a fixed structure that is not affected by the calculation cycles.

### Services

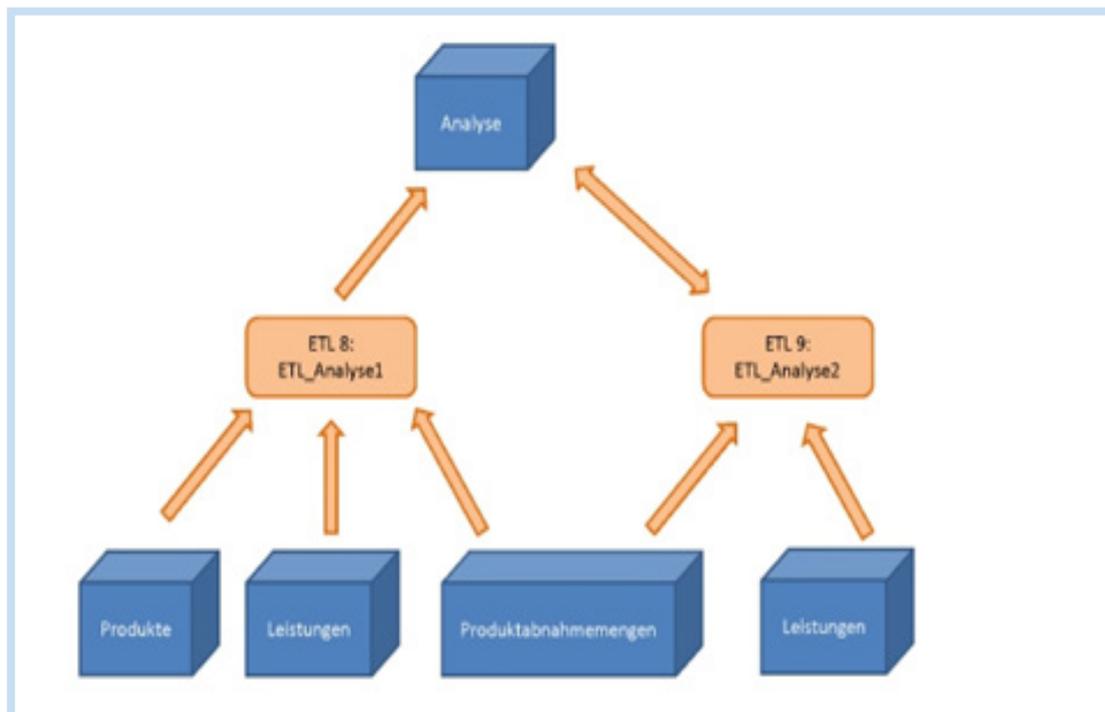
The Services cube is of central importance for process costing, because it is used to carry out internal activity allocations. For this reason, this cube is linked with the Resources cube.

### Products

This cube contains the cost of the products used or consumed and receives information from the Services cube.

### Analysis

The Analysis cube is tasked with creating reports. Using this cube it should be possible to establish the relationship between values that have been calculated, run comparisons and obtain an overview of the cost structure. It receives values from the Resources, Services, Products and Sales cubes, which it then processes. The result is a comprehensive overview that extends from customers to products, services and cost centres. In this way, it is possible to determine the influence of services on products so that risks can be identified and analyses can be performed.

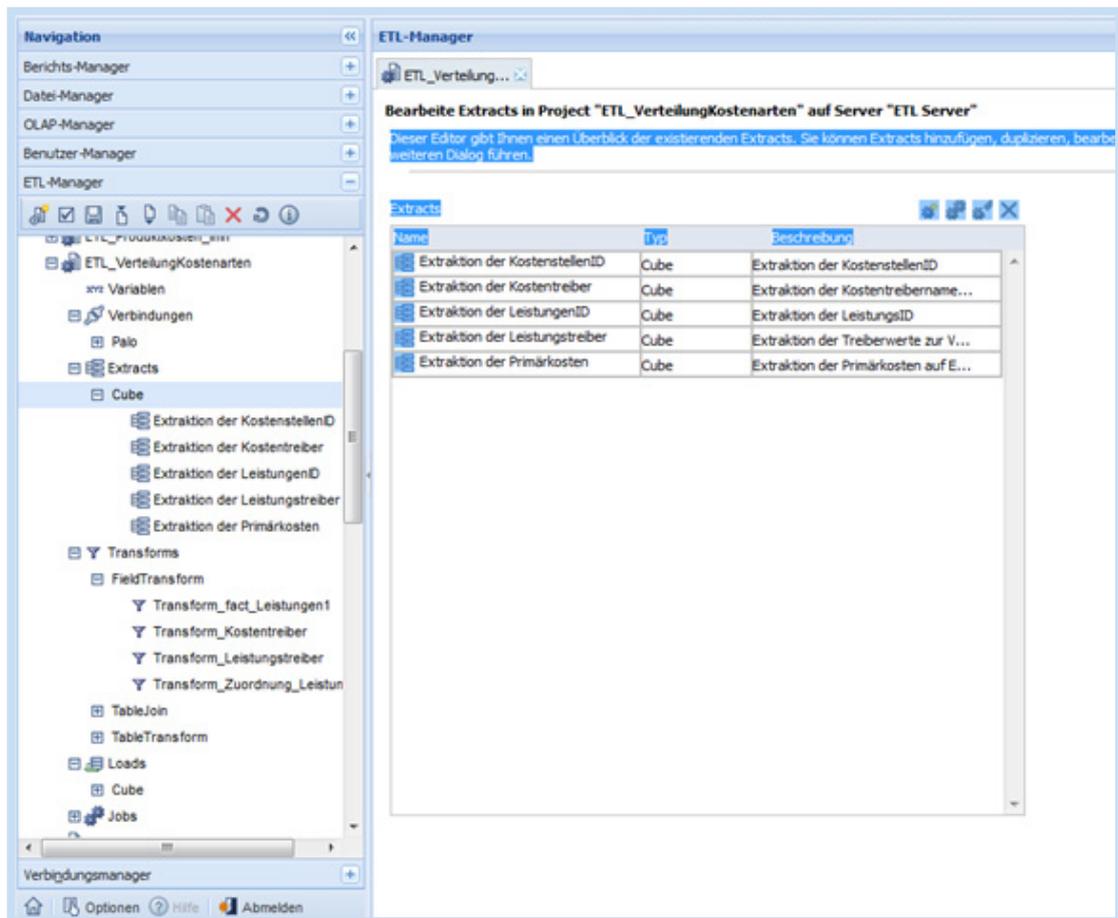


### Various Cubes for master data

In various cubes, information relevant for performing calculations (such as quantity structures) are retained.

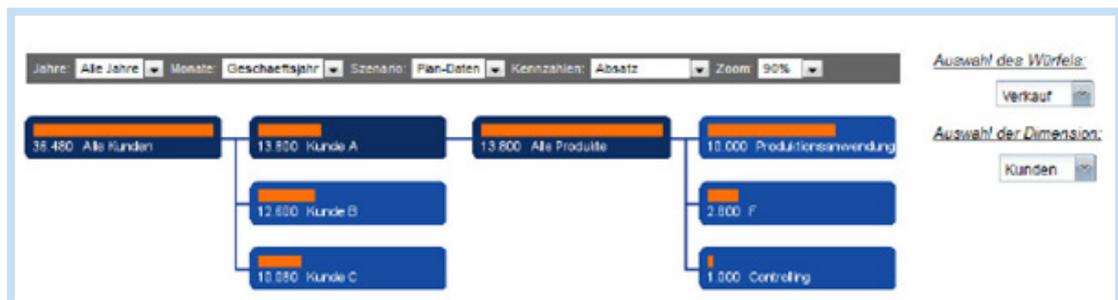
Of particular importance for realising the implementation of the cost accounting model is the ETL server, which has numerous interfaces to a variety of data sources. Using the ETL server, data can be selected either via an automated process or at the click of a button. This information can then be used to create the various stages of the clearing chain.

The ETL processes are therefore an important component in realising process costing. Among other things, they control communications between the individual cubes, perform calculations and transmit data. In the model, the lion's share of the calculations is performed via the ETL processes. At the same time, they help ensure that different transformations and data updates are carried out. In addition, rules applicable for the respective cube are also applied. These are immediately available for each data query and provide up-to-date results.



The Jedox OLAP cubes can be accessed using Excel, browser-based spreadsheet calculations or mobile devices.

The Excel plugin is strongly oriented towards business users, so anyone with a certain amount of experience with Excel can easily set up simple reports and cockpits.



Using the Analysis cube, detailed cost analyses can be run in the background, which Jedox complements by providing tools for producing convenient, fully automated reports for financial managers. In addition to these reports and evaluations, filters for administering the model can also be quickly and easily created. This gives users the ability to enter information about cost drivers directly in the web interface.

## 4. Reducing costs with open-source business intelligence solutions

In the previous chapters we showed how with open-source software by Jedox it is possible to quickly and flexibly implement process costing requirements.

Even rather complex calculations between individual OLAP cubes that are normally quite uncommon in BI environments can be carried out using ETL processes. In implementing these tasks, the Jedox Suite ETL server proves itself to be a flexible tool for realising all clearingsteps. Because the ETL server is so well integrated into the overall application, it is possible to develop a user-friendly interface that can access and make use of a very powerful computer.

The OLAP functionality allows in-depth analysis within the cube structures. Users can therefore analyse cost structures and discover cost drivers so that competitive advantages can be identified and resources can be better shared. In addition to the analytical functions for „power users“, Jedox also allows for the development of meaningful reporting, e.g. in the form of a contribution margin schema.

## Leading in Business Open Source solutions and consulting

it-novum is the leading IT consultancy for Business Open Source in the German-speaking market. Founded in 2001 it-novum today is a subsidiary of the publicly-held KAP Beteiligungs-AG.

We operate with 85 employees from our main office in Fulda and branch offices in Düsseldorf, Dortmund, Vienna and Zurich to serve large SME enterprises as well as big companies in the German-speaking markets.

it-novum is a certified SAP Business Partner and longtime accredited partner of a wide range of Open Source products. We mainly focus on the integration of Open Source with Closed Source and the development of combined Open Source solutions and platforms.

Due to the ISO 9001 certification it-novum belongs to one of the few Open Source specialists who can prove the business suitability of their solutions, proven by international quality standards.



## More than 15 years of Open Source project experience

- ▶ Our portfolio contains a wide range of Open Source solutions within the applications and infrastructure area as well as own product developments which are well-established in the market.
- ▶ As an IT consulting company with a profound technical know-how within the Business Open Source area we differentiate ourselves from the big solution providers' standard offerings. Because our solutions are not only scalable and flexible but also integrate seamlessly in your existing IT infrastructure.
- ▶ We can assemble multidisciplinary project teams, consisting of engineers, consultants and business data processing specialists. Thus we combine business know-how with technological excellence to build sustainable business processes.
- ▶ Our target is to provide you with a high-quality level of consulting during all project phases – from the analysis and conception up to the implementation and support.
- ▶ As a decision-making basis prior to the project's start we offer you a Proof-of-Concept. Through a real-case simulation and a developed prototype you can decide on a new software without taking any risks. Moreover, you benefit from:
  - Security and predictability
  - Clear project methodology
  - Sensible calculation



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