

Catalogue of requirements for a MS SQL Server Analysis Services (SSAS) front end tool

by Michael Mühlena

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Factors that may affect your choice

The huge variety of tools and specifications on offer can make it very difficult to choose the front end tool that's right for you.

When choosing a front end tool, there are many different approaches you can take. Several platforms provide information and overviews of front end tools, and individual requirements are often as varied as the search process itself.

Find out which approach can best help you to find a suitable front end tool and which specifications you need to consider for using the tool in an MS SQL Server Analysis Services environment.

MSAS stands for Microsoft Analysis Services, which is also known as SSAS.

In this whitepaper, you will find the answers to the following questions:

- What factors should influence the search for a suitable front end tool?
- Which selection criteria are relevant to a successful search?
- What are the requirements for using a front end tool in an SSAS environment?

The front end tool market offers a wide range of different products. It can therefore be difficult to get an overview of the various advantages and disadvantages of each product. What's more, different front end tools are more focused on different areas, such as dashboards or analysis, for example.

Two particularly important factors to bear in mind when choosing a tool are compatibility with individual requirements and areas of application.

Compare the different strengths and weaknesses of each tool and find out which features are the most important to you. It is also a good idea to find out the user and administrator's expectations of the tool. The customer and their requirements should be your focus when it comes to weighing up your options.

So who are your customers? In this case, a customer is anyone who will use the tool, as well as anyone who will be an administrator of the tool. This may lead to a conflict of interests. It may be that administrators' and user tasks clash. In this case, it is important to ensure that the front end tool also enables key users to administrate it.

Selection criteria for a successful search

The first step in the selection process is to analyse your requirements.

This will help you to define tasks and areas of application, which can be categorised under planning, analysis, reporting, or general BI.

The more specific your approach is when looking for a front end tool, the more likely you are to find relevant results. It is therefore advisable to get to know your users' requirements in as much detail as possible. Defining a range of tasks and areas of application for your front end tool should be the first step in the requirements analysis process.

Do you need to be able to retrieve data, write back data or comment on retrieved data for other users to see? Perhaps you need to do a combination of all the above? By answering these questions, you can determine whether your requirements fall under the category of planning, analysis, reporting or general BI. Online analytical processing (OLAP) cubes or multidimensional data repositories are often used for this type of tasks. The reasons for using OLAP cubes as well as their various advantages and disadvantages are laid out in another whitepaper that is available on the cubus website. From our experience, SSAS cubes are mainly used for analysis and reporting. However, you should also take other fields of application such as planning into consideration. The very common term 'Business Intelligence' or BI is often used in this context.

BI is a very general term that refers to many applications, focussing on analysis and presentation of data. We believe that planning is also important for successful business management. Planning contains budgeting and forecasting, as well as short, medium and long-term planning. Rewriting and modification of data is a prerequisite for these tasks. In addition to these functions, a guided process is a very important aspect of any planning system.

The following diagram illustrates the differences between individual disciplines in the field of evaluation and presentation of data.

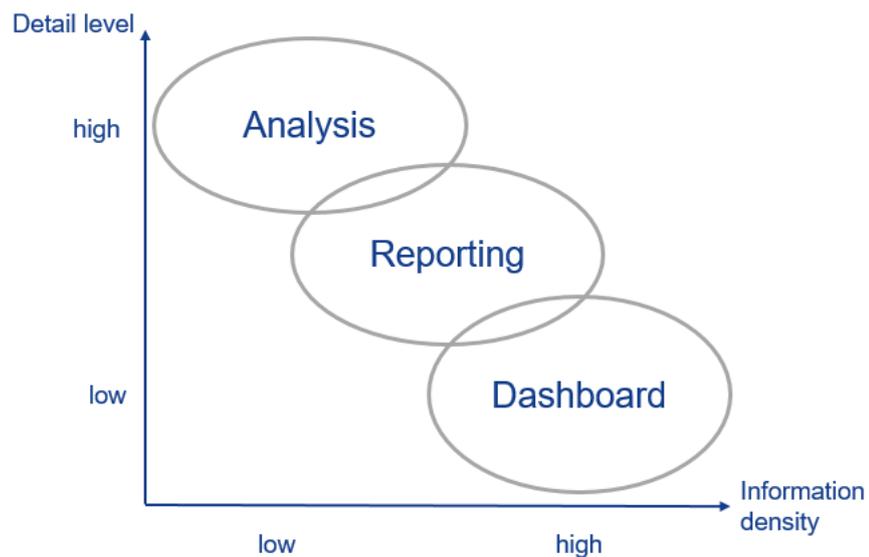


Fig. 1: Comparison of analysis, reporting and dashboard in terms of level of detail and information density

Dashboards can also be a presentation form and be used as an entry point for accessing detailed information.

Dashboards provide an entry point for the evaluation of data. Information density for dashboards is very high and the level of detail very low. Presentation of data using clear graphics is the focus here. If, in your capacity as a manager, you are a consumer of data that is provided to you solely for informative purposes, a dashboard that simply provides you with an overview of this data may be sufficient for you. If you travel a lot, access to mobile devices is also an important selection criterion.

If you are working in management and want to keep up to date by receiving short, clear updates on the current state of your figures, products with a focus on dashboards should be your priority. You may also need to add comments and explanations on a high information density to your data to facilitate information exchange within a system.

Depending on the different roles and responsibilities of employees within your company, a front end tool can help to achieve more efficient and effective results.

If you require further information beyond a dashboard can usually provide you with, however, access to predefined reports can be very useful. Reporting refers to both the presentation of information and the provision and preparation of textual information. It provides you with insights, for example on the figures being presented. Reports can be presented either as tables or as graphics. If predefined standard reports do not provide sufficient information to answer any questions the user has, it may be necessary to navigate further into the report. The user might also need to execute a DrillThrough report at the transaction level. Any requirements on a deeper level, where columns and rows need to be interchanged, fall under the category of analysis.

The focus of analysis is 'free movement' within the data room, which enables users to answer questions by following whatever pathway they choose. There should be no strict rules set for the user. Information can be searched, modified and completed as necessary in a targeted fashion. For tasks that fall under the category of analysis, the front end tool must be easy to use and provide the option to evaluate data according to a range of requirements.

The term 'self-service BI' refers to independent data searches, evaluation and presentation of user data, without the need for intervention from an IT department. This includes presentation of information in the form of both tables and graphics, as these simplify data analysis.

In all of the above-mentioned areas, there are various functional specifications, which we have laid out for you in the table below. We have also listed functions specific to SSAS, which affect the requirements in these individual areas.

Specific requirements for an SSAS environment

Analysis

General requirements (functional)

- Free analysis of data
- Users can independently navigate any data they have access to
- Graphic and tabular analysis
- Option to connect with other data sources
- Self-service, no IT support required
- Findings are available for other users/end users
- Access to data at any time from anywhere
- Good performance for queries
- Additional information can be generated during the analysis
- Minimal training requirement
- Minimal administrative overheads
- Secure communication (e.g. SSL)
- Starting point for DrillThrough

SSAS-specific support

- Supports member properties
- Supports named sets
- Displays defined hierarchies
- Access rights and personalised structures (supports MS AMO)
- Supports multidimensional mode and tabular mode
- Access to exported cube for offline analyses (local cubes)
- Supports multiple offspread selection
- Supports predefined field attributes
- Support for actions

Reporting

- Option to use or create standard reports (templates)
- Various formatting options
- Various presentation and visualisation formats (tables and graphics)
- Option for collaborative capabilities allowing to enrich data, share content, comments, eventually chat
- Findings are available for other users/end users
- Access to data at any time from anywhere
- Good performance for queries
- Option to create printable reports (e.g. PDF)
- Minimal training requirement
- Minimal administrative overheads
- Secure communication (SSL)

(See analysis)

Dashboard

General requirements (functional)

Access to different sources;
in this case SSAS Cubes

Transfer of POVs (point of views) to
various reports

See analysis and reporting

SSAS-specific support

(See analysis and reporting)

Planning

Option to rewrite data/enrich data with
further information (such as comments)

Option to carry out simulations

Data versioning

Workflow support, approval process and
authorisation settings

Initiation of aggregation, distribution and
other similar processes

Access at any time from anywhere

Good performance

(See analysis and reporting)

Data Spreading

Alongside functional requirements, there are other non-functional requirements to take into consideration when choosing a front end tool

Alongside the functional requirements listed in the table, there are also some non-functional requirements to take into consideration when choosing a front end tool. These include easy and intuitive operation, appealing interface and state-of-the-art visualisation. Although these features are less objective, it is important to consider this when making a decision. When looking for a front end tool, however, technical requirements are important too. Can you access your data via Excel add-ins, online and on mobile devices? Do you have the option to run a front end tool from the Cloud? How is the installation at your workstation? When asking these questions, be sure to take the company's internal IT system into consideration and to clarify how to install the tool.

When accessing data over the internet, check whether any special add-ins are required and whether the company's standard browser, such as Internet Explorer, or other browsers can be used. If you want mobile access it is also important to find out which operating systems are supported and whether an additional app is necessary or if there is the option of access via a website.

The company's IT strategy should be taken into account during the selection process.

Then the company's IT strategy should be taken into consideration. If Microsoft Internet Explorer (or Edge) is used as the default browser and no other browsers are available, in certain circumstances some products can be ruled out immediately if they are not compatible with the company's chosen browser. The same applies to mobile platforms. If mobile access is required and the company uses Windows Mobile exclusively, then you already have certain basic conditions to work with. The same applies, of course, to fat or thick clients. The company's IT set up in terms of onsite/cloud solutions also plays a role.

Conclusion

To find the right BI tool, it is important to take into consideration both functional and non-functional requirements. Full support of the functional requirements for an existing SSAS OLAP database are absolutely essential. Only once you have guaranteed this can you start to consider factors such as the price and vendor of the front end tool.

Do you need more help to define the criteria for making your choice on which software tools are right for you? The experts at cubus are happy to help.

Contact

cubus AG
Bahnhofstraße 29
71083 Herrenberg (Germany)
Tel +49 7032 9451-0
Tel +49 7032 9451-30
info@cubus.eu
www.cubus.eu

For enquiries, please do not hesitate to contact:
Michael Mühlena, Business Development
michael.muehlena@cubus.eu
Tel.: +49 (0) 7032-945163