![4i Solutions logo]

Abstract: Feasibility Study: Connecting local MS SQL databases to SharePoint Online

Reason for the research

The reason for this research is because 4i Solutions has found that the IT market has an increasing need for the advanced integration of various systems and data sources into a central user interface, such as SharePoint. Because 4i Solutions mainly offers Microsoft-oriented services, it has taken the decision to investigate Microsoft BCS as solution for linking a local Microsoft SQL database with SharePoint Online. Within this research, this solution will be assessed on feasibility to implement at customers.

Research

1 Requirements & Orientation	2 Pre-Reseach	3 Research & testing	4 Feasibility Study	5 Conclusions & advice	6 Alternatives

The research was initiated to determine the needs and requirements (target groups, content and design) of 4i Solutions and its customers. Next, the technical / functional capabilities of Microsoft BCS and was explored and tested.
After this phase, the (technical) feasibility study of Microsoft BCS (Hybrid) conducted, resulting in conclusions and advice. From this point a Change in the research occurred because of the negative advice for Microsoft BCS (Hybrid) of the researcher towards 4i Solutions.
The Change led to an additional phase in which the researcher has done research for alternatives. In order to create a list of solutions the researcher set up a Shortlist with 2 products (found using desk research on the internet):

- Layer2 Cloud Connector;
- 3rd Party Tool

These 2 products were tested within the on-premise and SharePoint Online test environment.

Results and conclusions

The researcher concluded that Microsoft BCS (Hybrid) has many technical demands on linking a local Microsoft SQL database with SharePoint Online, like the requirements for ADFS, SharePoint on-premises, Reverse Proxy, etc. Also, BCS only supports External Lists, which has significant limitations in relation to Native Lists. These demands can be seen as excessive to many organisations.

After this conclusion, the following advantages to 3rd party tooling were found:

- Performance, only 1 concurrent connection between the external data source (like SQL) and a list in SharePoint Online, instead of one connection per visitor;
- Security: no hidden/open ports and/or advanced firewalls needed;
- Redundancy: synchronisation instead of connector, which eliminated Single Points of Failure;
- Functionalities: support for Native Lists instead of External Lists, also greater variety of data source support;
- Investment: significant lower investment value due to the lack of local network components (like ADFS, SharePoint on-premises and Reverse Proxy).

A disadvantage is the minimal delay between original data source and data in SharePoint Online.

The selected alternatives were compared with Microsoft BCS (Hybrid) by means of a calculation investment.
Case 1 = small environment, Case 2 = medium, Case 3 = large.

Based on this collected and analysed data, the researcher concluded that the solution of Layer2 Cloud Connector is the preferred alternative to Microsoft BCS Hybrid.
Today, the software is being tested by 4i Solutions B.V. to implement at customers SharePoint solutions.

Investment comparison
Total for 3 years

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