Reference Architecture For Visualizing OBIEE/OAC Data From Power BI Using BI Connector

Whitepaper

Scenario

Acme Inc has been using OBIEE for several years. The users faced difficulties in visualizing the OBIEE data due to lack of modern visualizations in the OBIEE.

Power BI is readily available to users as a part of Office 365 and the Acme leadership team is keen on making Power BI a priority tool for data visualization.

Acme's users would like to use Power BI for visualizing OBIEE data and mash-up with other data sources while the IT team at Acme would like to reuse the existing OBIEE investment, create a quick win and prevent a prohibitively expensive re-engineering of the data warehouse.

This article provides a reference architecture for organizations such as Acme who are at crossroads of analytics and would like to meet the user demand for modern visualization of OBIEE data at optimal cost and reduced risk.

OBIEE/Oracle Analytics Cloud(OAC)

OBIEE is a great tool for data modeling with its physical and business layers. With OBIEE, creating and maintaining complex data relationships in the subject areas is easy.

OBIEE's presentation layer helps in creating quick tabular reports but is not visual-friendly. Creating visualizations is cumbersome and demands a tonne of technical know-how.

Power BI

Power BI is one of the industry-leading data visualization tools, from Microsoft. With Power BI, users can visualize data quickly just with drag and drop actions, and a few clicks. This feature makes Power BI one of the favorite tools for business users, as they no longer need technical assistance to visualize data. Further, Power BI's vast repository of visuals, along with connectivity options to numerous data sources including OBIEE/OAC makes it one of the most sorted data viz tools across various industries.

Power BI Desktop is free for the public, and can be downloaded on demand. Power BI is also available in cloud version for collaboration.

BI Connector

BI Connector, a Power BI certified connector, enables Power BI users to connect securely to OBIEE Subject Areas and Reports, and visualize the data.

BI Connector supports both Import and Direct Query connections, and is compatible with both Power BI Desktop and Gateway. BI Connector also supports scheduled refresh for data imports.

BI Connector setup is simple and easy. BI Connector has become a part of the analytics arsenal of many companies that are enjoying the best of both Power BI and OBIEE.

Reference Architectures

The below image depicts the reference architectures for:

- Connecting Power BI Desktop to OBIEE using BI Connector
- Publishing to cloud from Power BI Desktop
- Scheduled Refresh through On-Premise Gateway
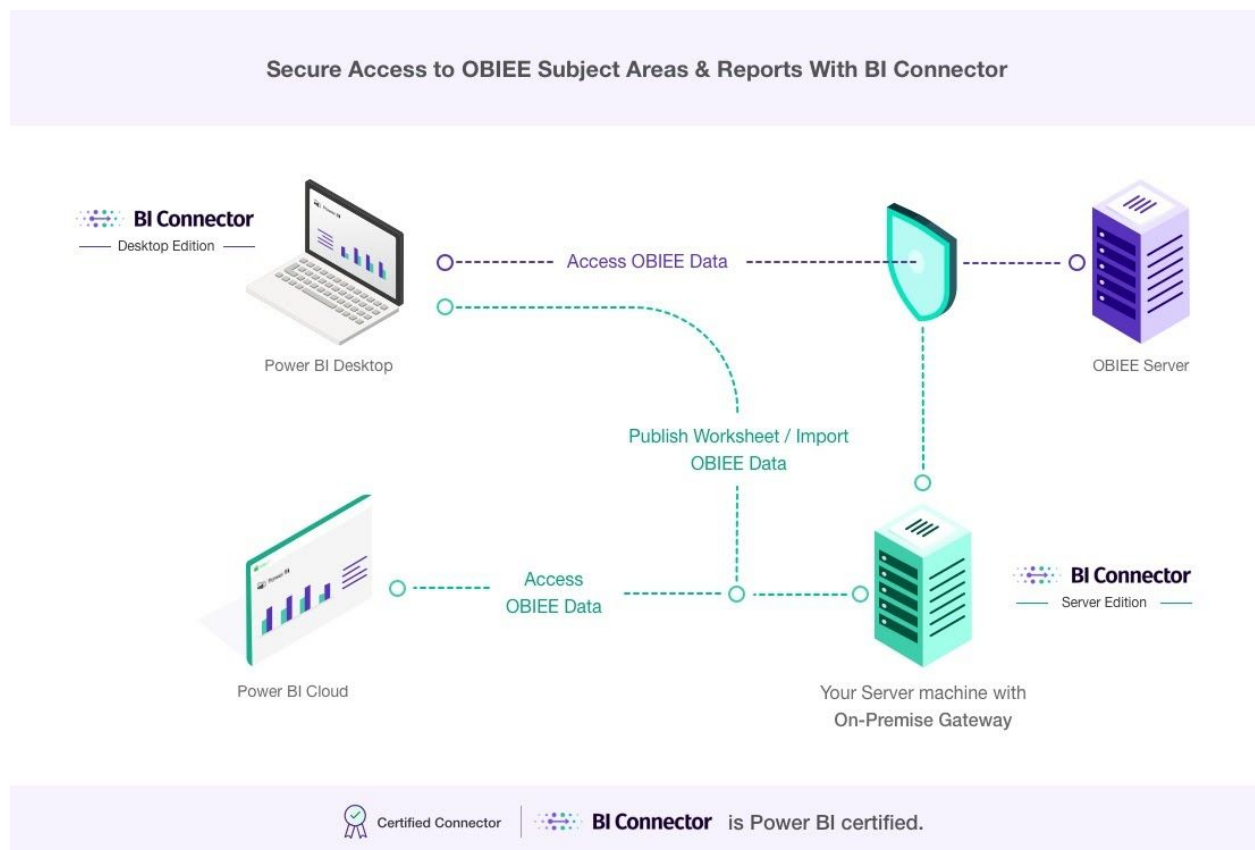
Connecting Power BI Desktop to OBIEE Using BI Connector

In Power BI Desktop, the user must first connect to the Data source to create reports. In order to connect to the OBIEE data source via BI Connector, the user must first install BI Connector Desktop Edition.

The user is then required to set up the DSN via ODBC Data Source Administrator. The DSN can either be a user DSN or system DSN. The URL entered in the setup stage can be the Secure Socket Layer(SSL) enabled HTTPS URL for OBIEE or the HTTP URL. The user can also manage the list of Subject Areas or Reports they want to access.

In Power BI Desktop, the user can connect to the OBIEE data source through BI Connector. When connecting, the user will be prompted to enter the DSN name, and choose the connection mode they prefer (Direct Query or Import).

At this stage, the user must enter the OBIEE credentials to securely connect to OBIEE. After successful authentication initially, the user is not required to re-enter the credentials again to connect to that data source anymore.

In OBIEE's view, this connection is similar to the connection made by a user by typing the OBIEE URL in a web browser and entering their credentials for authentication.
The user can delete the DSN from Power BI by clearing its permissions in the Data Source Settings. If they want to connect to the DSN again after clearing the permissions, they're required to re-enter their OBIEE credentials again.

Publishing to Cloud from Power BI Desktop

After creating reports in Power BI Desktop, the user can publish it to the Power BI cloud. While publishing, the user can choose the workspace they want to publish to.

The workspace can be shared with other users too with view/edit access to the reports.
Note: The Viewer users can only view the reports. The Member and Admin users can edit and publish the reports, while the Admins alone can manage users.

When a member or admin user wants to edit the report, they can simply download the pbix file from the report published in cloud, and make the required changes to it in Power BI Desktop. Once done, they can save the pbix file, and publish it back to the cloud. In this case, all the members and admin must have configured the OBIEE Data Source in the ODBC Administrator using BI Connector, in order to make changes to the report.

Scheduled Refresh through On-Premise Gateway

The user is required to install On-Premise Gateway in a server machine and install BI Connector Server Edition. A system DSN for the OBIEE is configured using BI Connector. It is also essential for the user to create a Power BI account in app.powerbi.com using the email to which they want to associate the gateway.

Upon creating the account, the user is required to open the On-Premise gateway app in the server, and sign in using their Power BI credentials, and create a Gateway Cluster (Called a Gateway).

The user (who will be admin of the cluster) can share the Gateway with other users, who in turn can create DSNs in it based on their needs. The users must enter the OBIEE credentials for the DSNs they create under the cluster.

Note: Prior to adding an OBIEE Data Source in the Gateway, the users must have configured that DSN in the same name in their machines as a System DSN using BI Connector Desktop edition.

The users can then create reports and publish it in the cloud in their preferred workspace. For each report, the users must map the Gateway and the DSN, and enter the OBIEE credentials in the settings. At this time, Power BI Cloud doesn't support the use of individual Power BI user accounts for connecting to OBIEE. Therefore, the OBIEE credentials would typically be a service account that is used for querying data from OBIEE.   Once done, the users can navigate to the schedule refresh option, and set up automatic refresh of import queries. The users can choose the date/day/time of the refresh based on their needs.

Summary

This document provides users with a reference architecture for Power BI users to visualize OBIEE data using BI Connector.

OBIEE is a great tool for data modeling, but not visual-friendly. Power BI is a visual-friendly BI tool with in-built connectivity options to many data sources including OBIEE, and also fosters mashup with multiple data sources. Connecting Power BI to OBIEE enables the users to make the best of both worlds.

BI Connector is a Power BI Certified Connector for connecting to OBIEE Data Sources. With BI Connector, it is easy to offer self-service visualization of OBIEE data. With BI Connector in the Analytics arsenal, companies reuse their investment in OBIEE and create a quick win by enabling users visualize OBIEE data.

Recommended Next Steps

Already downloaded BI Connector? Schedule an Onboarding Session.

If you haven't downloaded BI Connector yet, download a free trial.

Want to watch BI Connector in action and decide? Schedule BI Connector Demo.

Need access to BI Connector Resources? Videos | Documentation | Blog

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