

Astera DWAccelerator with Tableau

sales@astera.com | 888-77-ASTERA



Table of Contents

1. Introduction	01
2. Visualizing your Data Warehouse	01
3. DWAcelerator - Overview	03
4. Setting up a DWAcelerator Project	03
4.1. Data Modeling	04
4.2. Defining Data Maps in Load Settings	04
4.3. BI Integration with Tableau	05
4.4. Summary of Tableau Integration with DWAcelerator	08
4.5. Creating Custom Dashboards on Tableau	09
4.6. Job Scheduling to Populate Tableau Dashboards	09
5. Conclusion	10

Introduction

The data ecosystem is expanding exponentially, with data being generated from a wide range of applications, sensors and social media platforms in different formats every day. In the business sphere, processing this sheer volume of data and analyzing it regularly stretches IT systems and organizational processes. This data must be cleansed and presented for business users to understand and drive useful insights from it. That's how businesses turn the opportunities that data presents into reality.

Tools like Tableau enable data discovery by allowing users to convert complex data into visually appealing graphics. This allows users to recognize trends and patterns in their data to gain deeper business insights.

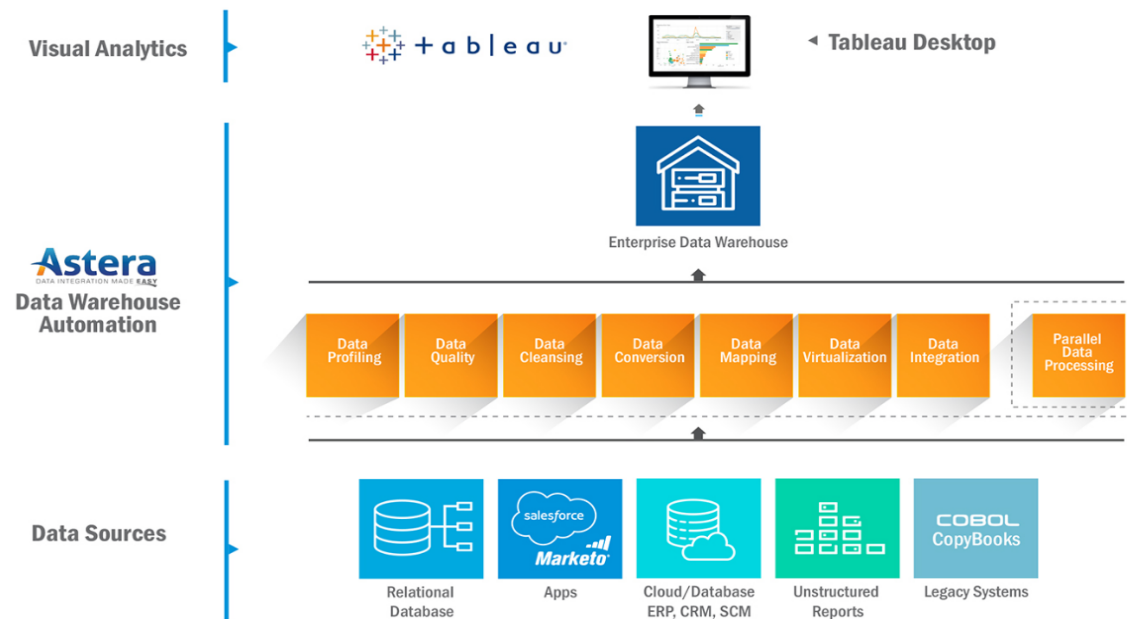
*Tableau helps
people see and
understand
data.*

Visualizing Your Data Warehouse

The practice of using graphical representations to visualize and understand data better dates to the 1800s. The human brain processes visuals 60,000 times faster than text – and 90% of information perceived by the brain is visual. Therefore, presenting data in an interactive manner by using graphs and charts is a lot more effective than scouring reports and spreadsheets for information. But to do that, businesses need the right data, at the right time.

The massive amounts of data companies generate is stored in a variety of operational systems. This disparate data is then integrated using ETL and other data integration methodologies, and stored in a central repository for reporting and analysis: The Enterprise Data Warehouse (EDW). In contrast to transactional databases, the dimensional structure of an EDW is highly optimized for reporting and analysis of data, enabling rapid prototyping and generation of reports in Tableau.

Astera provides an end-to-end platform for businesses to leverage data effectively and easily, from building a data warehouse to visualizing the data within. This white paper will discuss how business users can quickly and reliably build a data warehouse using DWAccelerator and integrate it with Tableau for enhanced business intelligence.



DWAccelerator - Overview

Providing advanced data warehouse automation capabilities to build enterprise data warehouses in hours and days rather than months and years, DWAccelerator is built upon Astera's industrial-strength ETL engine, refined by years of use by Fortune 1000 companies. This ensures the platform is flexible and scalable enough to meet the intense data processing requirements that enterprises face.

The platform utilizes technologies like Change Data Capture (CDC) to keep business data current, while the sophisticated dimensional data modeler allows users to automatically implement complex dimension loading strategies like Slowly Changing Dimensions (SCD). Features like pushdown optimization, auto-mapping, data quality verification and built-in workflow orchestration ensure that analysts can automatically prepare and populate graphical dashboards in Tableau and propagate changes from source data streams quickly.

Setting up a DWAccelerator Project

DWAccelerator supports connectivity with a wide variety of files, databases, data warehouse appliances, and even mainframe data. It starts by defining the necessary connections and modeling data using the visual dimensional modeler, specifying maps, load strategies, Tableau integration settings, and finally ends with executing the workflow to populate graphical dashboards automatically.



Data Modeling

The first step in setting up a DWA project is creating and defining source and destination dimensional data models. Source data models can be created by using the reverse engineering feature. Pointing the connection to the source database and DWAcelerator will automatically build the data model by reading schemas and reverse engineering the underlying model. The platform has a rich, visual user interface where source model can be transformed by using techniques such as table-merge to create a more denormalized structure and arrive at the dimensional model (star/snowflake schema) without writing any code.

Defining Data Maps in Load Settings

With the destination model ready, the next step is to define data maps in the load settings window. Users can automate the data mapping process by using 'Auto Map Data Model' feature after specifying the source and destination data models. DWAcelerator uses fuzzy match and other mapping automation techniques to build maps between source and destination data models for each entity. Alternatively, the mappings can also be defined by the user, either through direct maps or by defining expressions.

The next step is to specify the database write strategy. Users can select between full load and incremental load options. The added flexibility of deploying a custom read strategy that best suits a business' needs is also present.

BI Integration with Tableau

Once the data mappings and write strategies are defined, users can generate the integration flows with click of a button. DWA will automatically create all the integration jobs necessary to populate the data warehouse. The next step is to create the flow for integration with Tableau. Join the dimensions and fact tables of your choice using *Join Transformation* and then map the desired data to Tableau destination.

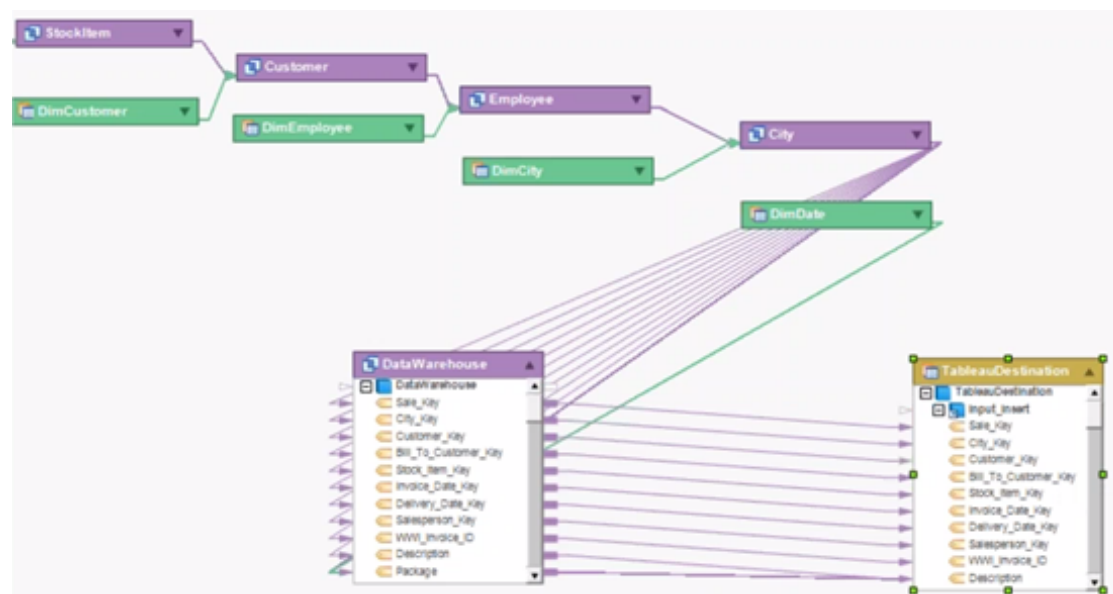


Figure 1

Joining fact and dimension tables and mapping to a database destination

Specify the data provider as Tableau in the properties section for the newly created database destination.

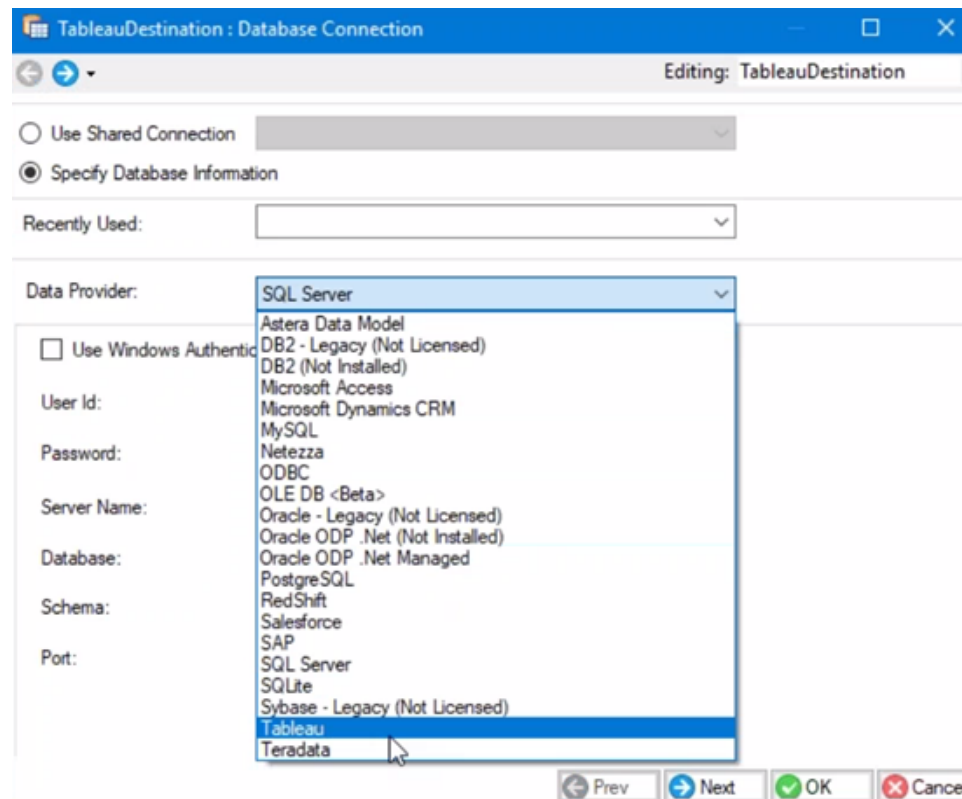
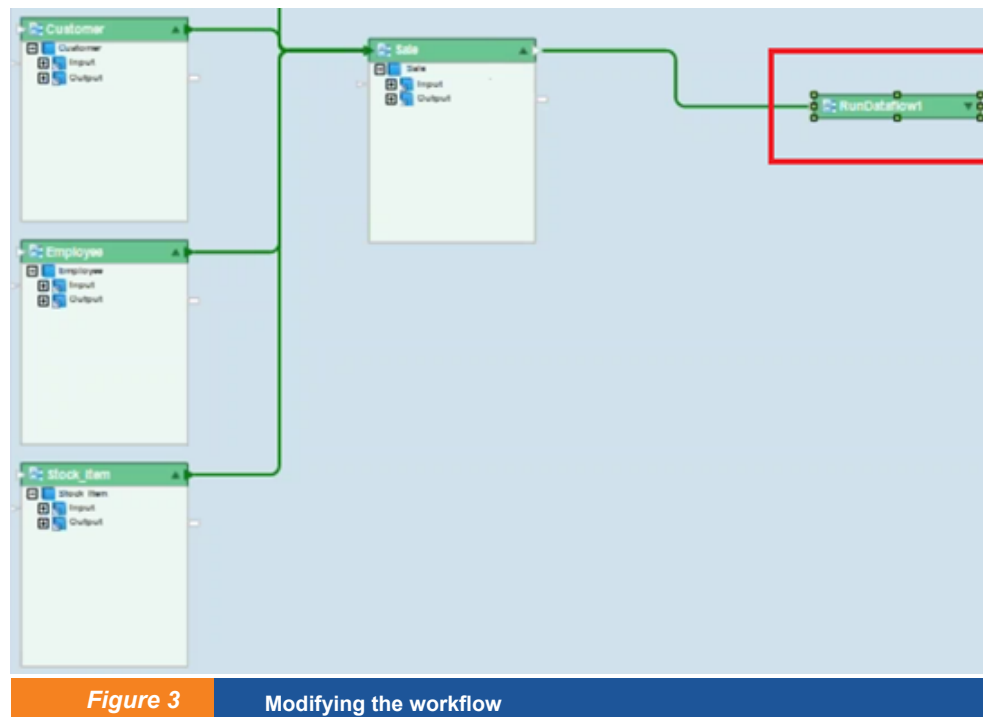


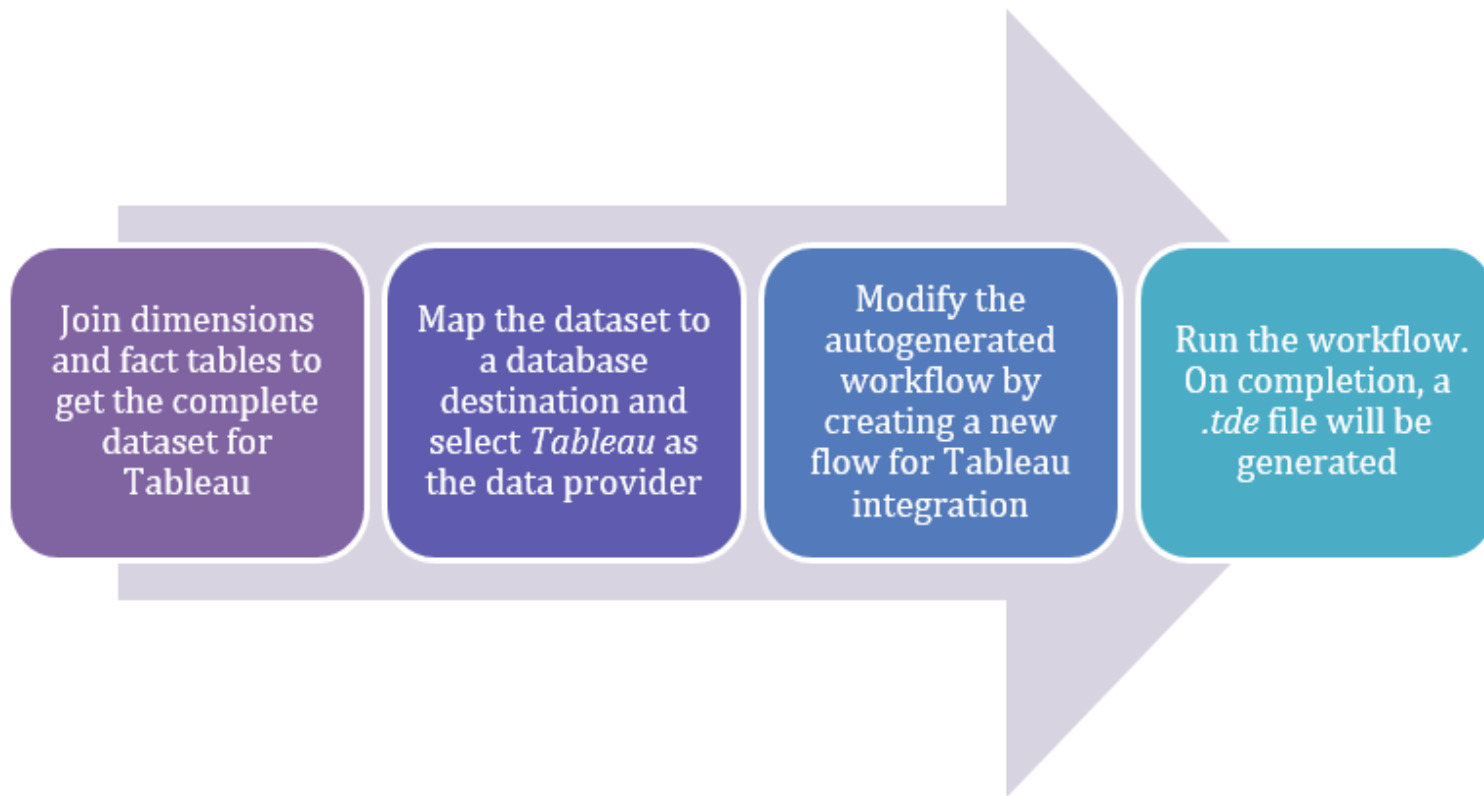
Figure 2

Configuring database destination settings

After mapping the data from source database to the Tableau database destination, create a separate task in your workflow. This will send a directive to DWA to run the pre-specified integration flow. A *.tde* file will be generated when the flow is executed.



Summary of Tableau with DWAccelerator



Creating Custom Dashboards on Tableau

Users can select *Dimensions* and *Measures* in Tableau. The tool will use this information to create interactive graphics, in a form best suited to the chosen tables. In Figure 4, we have taken *Buying Group* and *Total Excluded Tax* to compute the *Total Excluded Tax By Buying Group*. Similar sheets can be created using any extracted variables for analysis within Tableau.

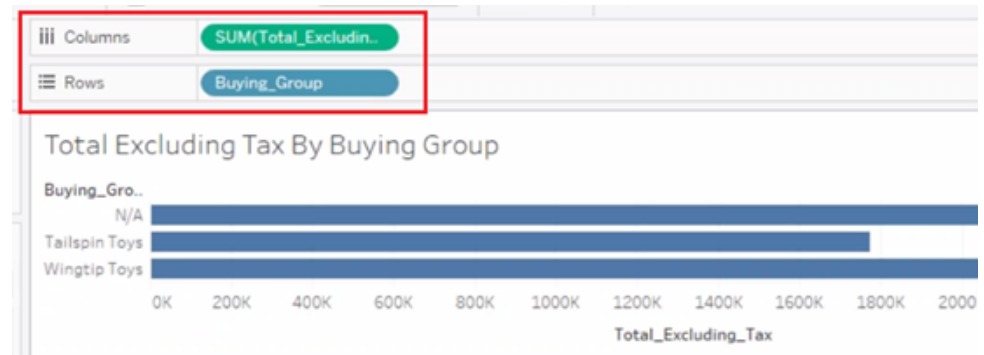


Figure 4

Drag and drop variables to create interactive charts

Job Scheduling to Populate Tableau Dashboards

The frequency of running the workflow to populate Tableau dashboards can be scheduled. Specify the job schedule per business needs and to capture incoming data in the desired frequency.

By following these 4 steps, users can automate the development process of a data warehouse and then integrate it with Tableau for visual data discovery.

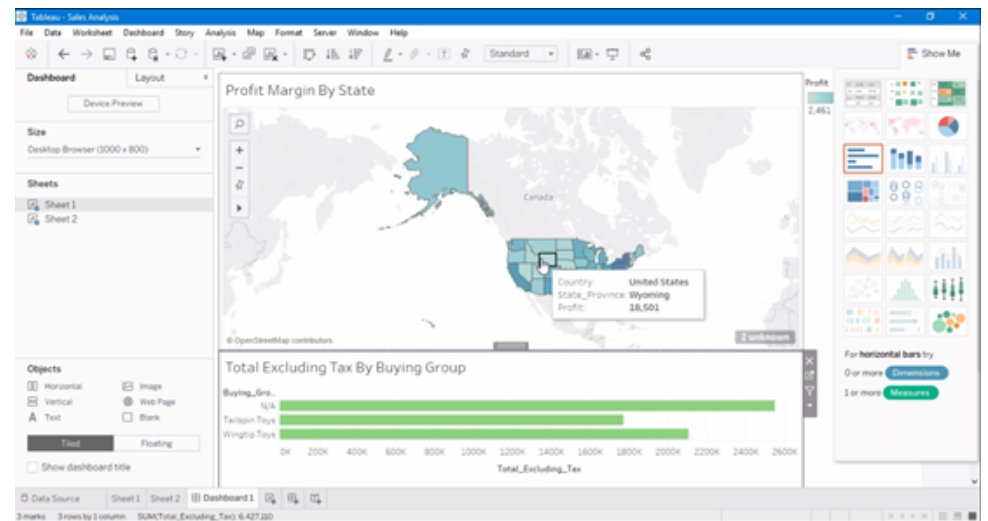


Figure 5

Tableau dashboard

Conclusion

A survey of data scientists found that 80% of their time is spent on preparing and managing data for analysis. This means only 20% of their time is spent acting on the insights derived and adding core value for the business. DWAcelerator, together with Tableau, makes information management and visualization easier. The complex and time-consuming tasks of data warehouse development are automated by DWAcelerator while Tableau presents data in an interactive and easy-to-understand format so that front-line business users can gain insights quickly and act fast to stay ahead of their competition in the overly competitive business environment. The native integration between the two makes for a highly optimized, enterprise-grade end-to-end data management and analytics solution for business users.



www.astera.com Contact us for more information or to request a free trial
sales@astera.com | 888-77-ASTERA

Copyright © 2018 Astera Software Incorporated. All rights reserved. Astera and Centerprise are registered trademarks of Astera Software Incorporated in the United States and / or other countries. Other marks are the property of their respective owners.