

SAP S/4HANA | EXTERNAL

SAP S/4HANA[®] Blueprint

Streamlining market data integration for SAP S/4HANA customers with Brisken Market Data Hub

OVERVIEW

This blueprint provides guidance to streamline the acquisition, integration, and validation of market data for SAP S/4HANA® customers through Brisken Market Data Hub. It also helps establish the business case for the solution and guides you through the steps required to achieve a successful implementation.

Project Phases

This document outlines the steps for implementing Brisken Market Data Hub, a solution that simplifies the acquisition, integration, and validation of market data for SAP S/4HANA customers. The information and guidance provided here are intended to be complementary to the information already available, and not a replacement of it.

<p><input type="checkbox"/> IDEATION</p> <p>Target roles:</p> <ul style="list-style-type: none"> • Lines of business • Leaders and users 	<p><i>Discover</i> an extension to an SAP® solution that overcomes a specific business challenge</p>	<ol style="list-style-type: none"> 1. Understand the business value 2. Visualize the solution 3. Consider recommendations
<p><input type="checkbox"/> PLANNING</p> <p>Target roles:</p> <ul style="list-style-type: none"> • Enterprise architects • Project leads 	<p>Make <i>decisions</i> in terms of landscape and deployment options</p>	<ol style="list-style-type: none"> 1. Plan the integration with SAP S/4HANA 2. Plan the implementation
<p><input type="checkbox"/> IMPLEMENTATION</p> <p>Target roles:</p> <ul style="list-style-type: none"> • Project managers • Integration managers 	<p><i>Act</i> to start completing the steps necessary for go-live</p>	<ol style="list-style-type: none"> 1. Deploy and activate the tenant in SAP® Cloud Platform 2. Install and configure the application 3. Set up the cloud connector 4. Test and validate setup
<p><input type="checkbox"/> OPERATION</p> <p>Target roles:</p> <ul style="list-style-type: none"> • Administrators • Technical consultants 	<p><i>Understand</i> what is required to run the solution and, where relevant, the tools provided by SAP</p>	<ol style="list-style-type: none"> 1. Provide technical support 2. Help customers update configuration settings as needed 3. Monitor data quality

IDEATION PHASE

Business Scenario

Many SAP S/4HANA customers depend on access to real-time exchange rates, interest rates, commodity prices, security prices, and other live market data. Although SAP makes some market data available through the SAP Market Rates Management service, some companies – including ones who are using the SAP Treasury and Risk Management module to manage corporate investments and financial risk, or the SAP Commodity Management module to manage commodities – need to subscribe to data feeds from many different market data providers to meet their precise information requirements.

For customers with complex market-data requirements, meeting those requirements is not a simple matter of subscribing to different sources online. It can, in fact, be a highly complex and time-consuming task to acquire the precise data points needed, to integrate this information into existing SAP S/4HANA applications, and finally to ensure the validity and consistency of the data across the organization once that data is integrated.

First among the challenges is that, once customers identify the data points they need, it is often difficult to determine how, where, and when to make the requests to obtain those data points. The interest rates needed are sometimes only available from particular banks, for example, and each bank might need to be queried at a precise time and in a precise format. And even when customers need a data point (such as the price of the Eurodollar) that is widely available from public sources, they need to specify which of the many available price quotes to request.

Even if customers can properly acquire all of the market data they need, its diversity can make it difficult to integrate into SAP S/4HANA applications. Each data source comes in its own format and requires its own set of methods, interfaces, or APIs to access its available information. Each source, therefore, also normally requires its own development and implementation project to integrate its data into SAP S/4HANA applications.

Finally, if a customer can successfully integrate market data into its SAP S/4HANA applications, ensuring the validity and consistency of that data is highly resource-intensive. Even from well-reputed sources, faulty data can occasionally, and without any warning, be introduced into financial processes



and automatic calculations. In addition, data is not always consistent across sources, and methods need to be devised to determine how to handle these irregularities. Consistency of market data can also be a problem internal to organizations, with different users obtaining data points from different sources and seeing different values at the same time. There needs to be a single source of truth for market data across the enterprise landscape, and applications need to be able to rely on the same set of market data at all times.

Solution

Brisken, a financial technology (fintech) company based in Houston, Texas, saw an opportunity to help SAP S/4HANA customers by using SAP Cloud Platform to build an application that simplifies market data acquisition. The application, Market Data Hub, automates end-to-end connectivity, integration, and validation of market data.

Market Data Hub solves sourcing problems by first providing access to hundreds of sources of market data, including Bloomberg, Refinitiv, OANDA, Intercontinental Exchange (ICE), stock exchanges, central banks, Quandl, Data.gov, and a growing list of other data sources. Market Data Hub also provides a tool to help customers determine their precise market-data requirements. The solution then automates the ingestion of market data by sending requests to each selected provider at the scheduled time and in the required format, relieving customers of the need to complete these tasks manually. All classes of market data and reference data can be managed through the hub, including the most commonly used data classes—such as exchange rates, interest rates, yield curves, security prices, commodity prices, volatilities, and basis points—as well as structured market portfolios and volatility surfaces. Market Data Hub also handles security master data, bank master data, and other financial reference data or indicators.

Next, Market Data Hub solves problems with integrating market data. It provides a tool to set up end-to-end integration flows of market data from leading data providers to SAP S/4HANA, with configurable mapping, scheduling, and transformation functions.

Finally, Market Data Hub solves problems related to the accuracy, validation, and consistency of market data. It ensures that the data received is consistent with data published by other sources, and it even provides mathematical checks to spot statistical outliers. If an inconsistency is identified, Market Data Hub will flag it as an anomaly, trigger an exception, and initiate an approval request. To ensure data consistency within each company, the application schedules market-data propagation throughout the enterprise so that there is a single source of truth for market data.

Solution Description

Market Data Hub is built using SAP Cloud Platform. Because it runs on SAP Cloud Platform, Brisken is able to deliver Market Data Hub to SAP S/4HANA customers in a software-as-a-service (SaaS) model. The application was developed in native SAP HANA® XS Advanced in the Cloud Foundry environment, and the front end is built as multiple SAP Fiori® applications.

Integration with SAP S/4HANA, SAP S/4HANA Cloud, the SAP Business One® solution, the SAP® Business ByDesign® solution, the SAP® Concur® solution, and other target systems is achieved with the help of the cloud connector that is a standard component of SAP Cloud Platform Connectivity. Connectivity with providers and apps (cloud and on premise) is performed using OData, REST, and the service-oriented architecture of SAP Cloud Platform. The app also sends e-mail notifications to users as part of integration workflows.

Reference Solution Diagram

SAP Cloud Platform enables developers to quickly and securely build cloud-based applications by providing both a platform for the application and access to all the supporting services that the application needs. Figure 1 illustrates a combined architectural pattern of the runtime and design-time environments for the Brisken Market Data Hub use case.

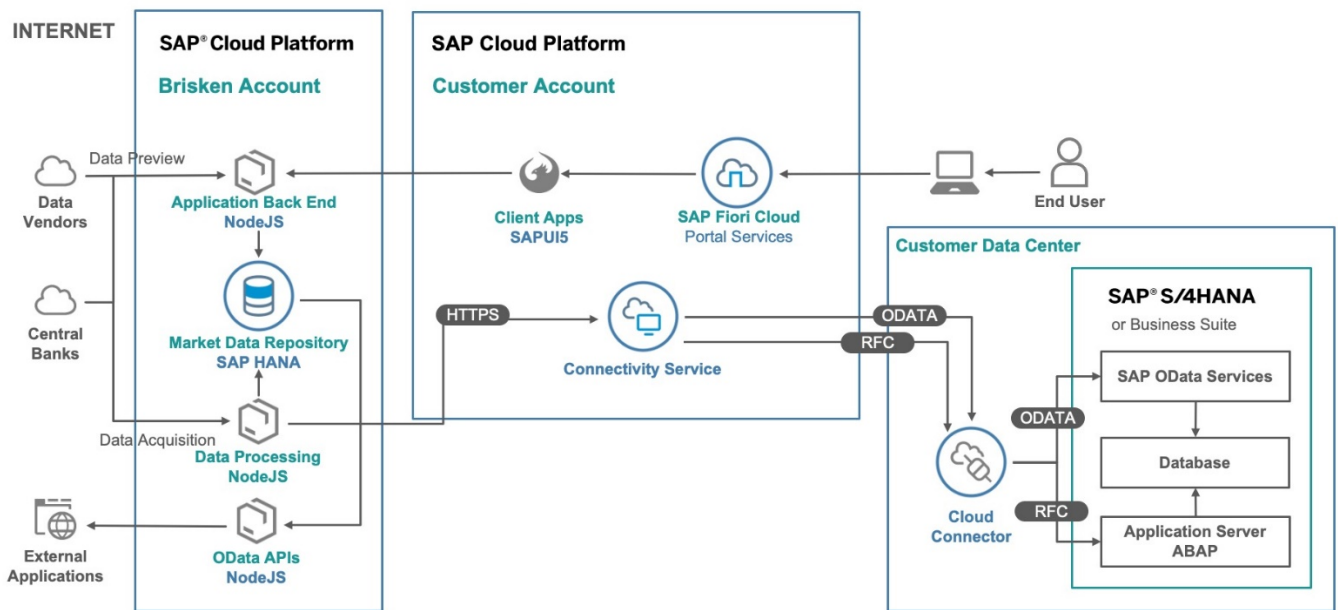







Figure 1: Reference Solution Diagram for Brisken Market Data Hub

Reference Solution Components

Required SAP® Cloud Platform Components for Licensing

The following table lists the components that a partner would need to license in order to build an application similar to Brisken Market Data Hub. Note that this material is for reference purposes only. Consult your SAP Account Executive regarding your specific licensing needs.

CAPABILITY	FUNCTION
 Cloud Connector	SAP Cloud Platform Connectivity includes a cloud connector component. This cloud connector is used to transfer data securely from SAP Cloud Platform to SAP on-premise systems and back to SAP Cloud Platform
 Connectivity	Establishes connections between cloud applications and on-premise systems
 SAP HANA Database	The most advanced in-memory database, fully managed across multiple clouds
 Application Runtime	Provides reserved runtime capacity and enables you to run and manage your cloud-native applications on SAP Cloud Platform
 SAP Fiori Cloud	Used to provide the SAP Fiori launchpad, the entry point to SAP Fiori apps on mobile and desktop devices, to apps running in the cloud

Customers can use the SAP Cloud Platform pricing estimator to calculate the required investment for a particular project, and they can scale up or down on services as required.

Members and partners of the SAP® PartnerEdge® program can evaluate the development of an application for this use case – most development licensing is covered by the packs offered by SAP's partner licensing services.¹ Click "[Pick Your Development and Test Service or Package](#)" for details.

To subscribe to Brisken Market Data Hub, customers can visit the [Brisken Market Data Hub](#) entry in the SAP App Center. The SAP App Center license includes the app, all components, and the subscription to the SAP Cloud Platform as a run-time license. Customers do not need to license any additional components.

¹ Excluding open ecosystem basic.

PLANNING PHASE

Plan the Integration with SAP S/4HANA

Planning for the integration of Market Data Hub into SAP S/4HANA begins during the app's functional design stage. Part of this phase includes identifying the data the app needs from SAP S/4HANA, how to transfer that data from SAP S/4HANA into the app, and how to transfer any modified data back into SAP S/4HANA if necessary. To hook into SAP S/4HANA in this way, you need to make use of the existing OData services, the BAPI® programming interface, and APIs provided by SAP.

For the integration of market data and securities master data into SAP S/4HANA, Market Data Hub consumes SAP standard function modules such as BAPI_EXCHANGERATE_CREATE. Market Data Hub is also designed to map the data from different providers and sources to the format required by SAP S/4HANA. When the market data requires some type of transformation or derivation, Market Data Hub performs these as part of the data flows that have been configured.

Use the following tools to read the functional and technical documentation, explore the existing interface points, and even test a BAPI interface or API before incorporating it into your application.

- SAP BAPI Explorer (t-code BAPI). This tool allows you to find all available BAPI interfaces in your SAP system. It provides a functional description of the BAPI interface, in addition to the technical details you need in order to plan your technical design and use the BAPI interface in your application.
- [SAP API Business Hub](#). This site allows you to find all APIs for SAP Cloud Platform offered by SAP and selected partners. It also allows you to test the APIs and even find sample applications that demonstrate how you can use an API in your own application.

Plan the Implementation

Market Data Hub integrates with a customer's installation of SAP S/4HANA through an instance of the cloud connector, included in SAP Cloud Platform Connectivity, that runs on a customer's premises. Therefore, as part of planning for implementation, the customer should make sure that the internal resources with the required skills for the setup of the cloud connector are available. Brisken provides new customers with instructions for configuring the cloud connector.

Using a Microsoft Excel template provided by Brisken, the customer configures the market data points to acquire by specifying information such as the provider, tickers/IDs, and schedule. The customer also defines how the data should be stored in SAP S/4HANA, such as the exchange rate type or the price types under which it will be stored in the SAP S/4HANA standard tables.

For the installation of Market Data Hub, no changes to the SAP S/4HANA system are required.

For further guidance and reading about SAP S/4HANA Cloud extensibility:

- ["Custom Extensions in SAP S/4HANA Implementations" – Practical Guide](#)
- [SAP S/4HANA Requirements for Partner Solutions: On Premise Guide](#) (customers and partners only)
- [SAP S/4HANA Cloud extensibility explorer](#)

IMPLEMENTATION PHASE

Deploy and Activate the Tenant in SAP Cloud Platform

1

Brisken prepares for a customer implementation first by ensuring that the Market Data Hub tenant is deployed in SAP Cloud Platform and available to the customer. Then Brisken activates the tenant for the customer's SAP account on SAP Cloud Platform, which gives the customer access to the Market Data Hub tenant. The tenant is deployed with the preconfigured content, ready to be used by the client.

In addition, customers who have opted for an advanced subscription have two tenants of Brisken Market Data Hub, one for development and testing and another for production, so Brisken must also deploy and activate this second tenant for the relevant customers at this time.

Install and Configure the Application

2

Market Data Hub installation can be performed by the customer alone or with the help of Brisken. The setup process can be completed in a few days, even for complex implementations.

After Market Data Hub is installed, the Excel template defining data rules that was prepared during the planning phase can be applied. Customers can also configure settings directly in the application.

For customers with more complex requirements, more effort might be required to integrate the data from the providers into each customer's SAP S/4HANA environment. The implementation in this case might include requesting that the customer define data-governance preferences such as data-quality checks, exception handling, and audit reporting needs. Some customers might also require additional functions such price calculators, data cleansing, or data normalization.

Set up the Cloud Connector

3

At this point, the customer configures the settings to the cloud connector, which ensure the secure connectivity between SAP Cloud Platform and SAP S/4HANA.

Test and Validate the Setup

4

After completing the installation, customers can test the solution extensively in the test tenant connected to their test client in SAP S/4HANA. Once the customer is ready to go live, all settings can be migrated to the customer's production tenant, which is connected to the customer's production environment for SAP S/4HANA.

Learn more about the implementation phase by reading about similar apps:

- [SAP App Center](#)
- [SAP Cloud Platform Discovery Center](#)
- [Explore other blueprints for SAP and ecosystem partner solutions](#)

OPERATION PHASE

Provide Technical Support

To ensure that Market Data Hub continues to operate smoothly, Brisken monitors the app and supports customers by resolving any technical issues that arise at the application level. Brisken also implements any adjustments required because of changes to APIs, the BAPI interface, web services, or other connection points to which the standard adapters connect.

Help Customers Update Configuration Settings as Needed

Beyond this technical support that Brisken provides for Market Data Hub, certain setting changes made in SAP S/4HANA require customer involvement after implementation. For example, changes to exchange-rate types, yield curves, or price types need to be made first in SAP S/4HANA, and then the customer needs to map these new configuration settings to Market Data Hub. These types of setting changes in SAP S/4HANA might also require customers to modify data requests from providers or even configure requests to new data sources. Market Data Hub helps customers make these types of adjustments to keep all settings in sync.

Monitor Data Quality

Market Data Hub provides tools and features to monitor data quality after implementation. For example, users can opt to receive alerts whenever errors occur in data connectivity or data integration, or whenever data anomalies are detected. These alerts trigger an exception workflow to guide users through the resolution of the issue.

When changes occur to the data sources or provider services, Brisken can make corresponding adjustments at the app level when necessary. However, customers should also be vigilant to any changes that require manual configuration adjustments in Market Data Hub or even in SAP S/4HANA.

For customers who do not want to be responsible for the maintenance of the market data service, Brisken offers various levels of premium support services.

More information on the operation phase:

- [Brisken Help Center](#)
- [SAP Help Portal – SAP Cloud Platform](#)
- [SAP Cloud Platform community page](#)
- [SAP Support Portal](#)

SUMMARY

Brisken Market Data Hub solves an important set of problems for its customers by making it easy to meet complex requirements for importing and integrating market data into SAP S/4HANA.

To connect to SAP S/4HANA, Market Data Hub makes use of OData services, the BAPI interface, and APIs provided by SAP. Market Data Hub runs in SAP Cloud Platform and is able to communicate with a customer's installation of SAP S/4HANA through the cloud connector that is a standard component of SAP Cloud Platform Connectivity.

For more information about Brisken Market Data Hub, visit the following links:

- [Brisken Market Data Hub in SAP App Center](#)
- [“End-to-End Governance and Management of Financial Market Data”](#)

Connect with the partner community:

- Ask questions in the SAP PartnerEdge – Build community [here](#).
- Ask questions about SAP ecosystem partner products on [SAP App Center](#), by locating and selecting a partner product and then navigating to the “questions” tab.



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