13 Reasons to Use an iPaaS for Cloud Service Integration
A Guide for Enterprise Architects

Many organizations have goals to be more agile, digital, mobile, or responsive, and those goals are requiring them to upgrade their infrastructure and processes. At the heart of infrastructure and process changes is the need to support more widespread integration, whether to connect applications, data stores, people, or things.

As part of this effort, enterprise architects fulfill the critical role of evaluating new technologies and creating roadmaps that can transform their company's IT and business capabilities. Many enterprise architects begin evaluating how to use an integration platform as a service (iPaaS) to help them reach those organizational goals.

An iPaaS offers numerous agility, risk management, and lifecycle management advantages for enterprise architects and their organizations. This is especially true in comparison to the alternative of writing custom code for specific application APIs. For instance, an iPaaS can:

- Shorten the time from concept to delivery
- Smoothe handoffs to operations teams
- Reduce operational risks with numerous built-in services and safeguards, such as those to handle failed record transfers
- Expand integration bandwidth by enabling more people, including those with less technical skill, to create or maintain integrations

In this whitepaper, we present 13 features of the TIBCO Cloud™ Integration iPaaS that make data and application integrations fast, flexible, and future-proof. We also examine the many facets of the data integration lifecycle to consider when evaluating an iPaaS solution.

1. SELF-DOCUMENTING UI

Many integrations are not "set-it-and-forget-it" solutions. They need to closely follow the twists and turns of an organization's application and data strategy and use and make ongoing changes to keep them in sync with the changing needs of application users.

For integration developers, it's one thing to build an integration, and another to maintain what someone else has developed. Even debugging your own code can sometimes be difficult if enough time has passed between the time it was released and when new changes are required.

TIBCO Cloud Integration addresses this challenge with a graphical UI, featuring logic that's easy to read and understand. This makes it possible for someone, especially someone with little knowledge of the integration, to quickly debug or adapt it.

In addition, consistent graphical elements are used across different integrations to add consistency. For example, with TIBCO Cloud Integration, you can reuse your own custom pieces—for building an integration to a Salesforce instance and then for building an integration to a Microsoft Dynamics CRM instance—so you don't have to start over from scratch.

2. MAINTAINED CONNECTORS

TIBCO Cloud Integration takes on the burden of creating and maintaining a large and growing library of connectors for popular applications and technologies. That means enterprise architects don't have to worry about their teams having to track, evaluate, and update integrations when an application API changes.

Companies such as Microsoft, Salesforce, and Marketo release changes to APIs on a regular basis—sometimes with little warning. These changes can be very disruptive to application users, even causing a running integration to stop working entirely, such as when Marketo replaced its SOAP API with a RESTful API. The changes could also represent new opportunities for streamlining business opportunities, such as an API exposing more functionality and opening the door for deeper application integration.

So tracking API changes is an important part of any integration strategy. When APIs change, you need to test, and you won't know if the change has a trivial or major impact until you progress far into the testing process. This may seem manageable if you are considering one application, but when enterprises use dozens of applications, IT groups face a sizable challenge of keeping track of all the API updates.

TIBCO Cloud Integration eliminates this challenge by taking on the responsibility for major applications, such as CRM and ERP systems. For these applications, TIBCO tests and evaluates new API versions to see if any relevant functionality has changed. With each API release, TIBCO updates its connectors with new capabilities and ensures they still run.

As an example, HubSpot changed its authentication mechanism from one version of OAuth to another. In another instance, which was mentioned earlier, Marketo changed its API from SOAP to RESTful. In both of these cases, if you had written custom code directly to the APIs of the applications for your integration, you would have had to learn an entirely new API—or evaluate the API changes and update or rewrite your integration. When situations like this occur, TIBCO takes care of all the necessary connector maintenance for you, and your integration just keeps running as you intended.

3. COMPREHENSIVE OPEN API

TIBCO provides you with open access to the same API used to develop TIBCO Cloud Integration. The open API essentially enables developers to programmatically access (i.e. write a script to control the platform instead of using the UI) for everything in TIBCO Cloud Integration. This includes all user-interface elements, monitoring tools, and performance data. Accessing the TIBCO Cloud Integration Scribe API gives enterprises several key capabilities:

Embed functionality from TIBCO Cloud Integration into your custom or commercial applications. As an example, some organizations pass performance statistics to their support teams and publish the data in their support app UI so they can streamline the monitoring and maintenance of integrations with early warnings on performance issues or network outages. Others embed the field mapping interface in another application (such as Salesforce) so business users can rapidly change field mappings, which shortens the time to adapt integrations and offloads those requests from the IT or support teams.

Extend the platform with additional capabilities for your environment. Because TIBCO Cloud Integration has an API, you can build your own UI components, such as custom monitoring elements, so you always have the ability to grow the platform to suit your unique data processing or integration development needs.

Streamline repetitive UI tasks, such as creating sandbox environments for many users; you can create a script instead of using the UI.

Simplify the configuration and deployment of integrations. If you have suppliers using an application you created to pass invoices from their financial systems to your ERP system, you can use TIBCO Cloud Integration to expose an API that will collect the data and deliver it to your ERP system.

4. MONITORING/ALERTING

If something goes wrong with one of your data connectors, TIBCO Cloud Integration lets you know immediately via email. It provides built-in dashboards that quickly reveal the health of integrations, providing several easy insights:

• Fatal errors (run failed)

• System updates

• Failed rows

• Agent down/no longer communicating (agent heartbeat)

• Connector is installed

You have the option to enable/disable each of these alert categories. If building integrations by writing custom code to application APIs, this alerting structure would have to be built, but it is often not completed—causing maintenance and debug issues later in the lifecycle of the integration.

5. COMPATIBILITY WITH EXISTING MONITORING TOOLS

TIBCO Cloud Integration provides a comprehensive set of monitoring tools, but some organizations prefer to use their own system monitoring tools to minimize the number of applications their IT staff needs to access. The system syncs with this approach by giving you the capability to monitor integration health data through your existing tools.

With the TIBCO Cloud Integration Scribe API, you can express data in custom or commercially available monitoring tools you already use. In addition, with its SMTP connector, TIBCO Cloud Integration can also send email notifications when events (or conditions) occur.

6. MANAGEMENT OF FAILED ROWS/REPROCESSING

TIBCO Cloud Integration provides a unique and comprehensive mechanism for ensuring that your integration processes all data and does not skip any data updates. For every row update, it tracks whether the updates have failed or succeeded. If a row fails, the platform keeps track of what those rows are so that you can reprocess them.

If you had an error in a formula you were applying to your data, those records may fail. If that happens, you can easily identify the rows that were not processed and reprocess them.

7. NET-CHANGE DATA UPDATES

TIBCO Cloud Integration communicates closely with your applications and senses which data has changed since the last update of data received from the application. The "net change" can be passed on to downstream/target applications.

That means the system doesn't have to send ALL the data again; it iterates, updating only the information that changed. This provides major performance improvements and are very useful for many processes—such as replication when you want to maintain a copy of the contents of your Salesforce instance in a database for analytics.

If replicating your Salesforce database to an SQL database, all the current data is initially loaded into SQL. After an initial load of all the data, however, only the changed data must be moved to the database, making those data updates complete much faster. You define which date-time field to use to track changes in each map, and TIBCO Cloud Integration remembers the timestamp of the newest record processed.

8. TOOLS FOR OPTIMIZING PERFORMANCE

In many integration projects, the performance of the integration is a critical success factor. TIBCO Cloud Integration offers two types of performance optimization tools.

Application-specific Controls: The application connectors provided by TIBCO Cloud Integration include a number of application-specific performance enhancement options. For example, API hits can hurt performance when you are integrating with Salesforce, so our Salesforce connector gives you the option to switch to an asynchronous API, which is more API-efficient. TIBCO uncovers these performance-limiting factors as part of its connector development process and addresses each issue. All of our experience and learning around the application gets rolled up into the connectors, and you benefit from our learning across hundreds of deployments.

Performance Monitoring: In addition to the performance optimization tools in each application connector, TIBCO Cloud Integration also offers additional aids for optimizing performance in its monitoring tools. Its monitoring tools will show you the processing time of each step in your integration logic. You can use the detailed timings to optimize the performance of your integrations.

9. A DEVELOPMENT ENVIRONMENT FOR RAPID CHANGE

In today's competitive environment, enterprises want to move ever-more quickly. TIBCO Cloud Integration is designed for speed. Its graphical environment for developing, monitoring, and adapting integrations streamlines integration tasks, especially when compared to integrations custom-coded to application APIs. It provides a speed advantage in three areas:

ADDING NEW APPLICATIONS.

As most organizations attempt to move faster, they tend to evaluate, use, and replace applications at a faster pace. TIBCO Cloud Integration allows you to integrate new applications in hours or days so your integration efforts can keep pace with your business users. If your marketing team wants to bring data from a new social media monitoring tool into your marketing automation system, TIBCO Cloud Integration lets you add a connection with just a couple of clicks, allowing your marketing team to evaluate the effectiveness of the new application. The marketing team can then evaluate the effectiveness of the new application without your needing to spend time coding an integration to the API.

SWITCHING APPLICATIONS.

With today's cloud applications, organizations are more prone to switch from one product to another as they seek a sales/marketing advantage. Your marketing organization may switch to a new marketing automation system as it outgrows the one it is currently using. With its hub-and-spoke design and no-code environment, TIBCO Cloud Integration lets you more easily switch from one application to another.

MODIFYING THE LOGIC OF YOUR INTEGRATION.

Organizations are constantly evolving their processes to make their teams more efficient and productive. That trickles down to integration logic in the form of new fields, custom objects, data manipulation rules, and other changes that are constantly being made to integrations to keep them in step with how the business operates.

10. EFFICIENT, CLOUD-BASED AGENT COMMUNICATION

A proven agent structure allows TIBCO Cloud Integration to efficiently communicate among all applications, including any combination of cloud and on-premises applications.

The agents are small pieces of software that facilitate the transfer and processing of data between applications. They can easily be deployed in the cloud or behind a firewall. No network or firewall changes are required, and no IT intervention is needed to affect those changes. If you were building a custom-coded application, you would have to build the agent structure yourself.

11. DEPLOYMENT TOOLS

TIBCO Cloud Integration includes built-in tools to help you easily move your integration solution from development to a production environment. Whenever you save an integration solution in TIBCO Cloud Integration, it automatically builds and compiles the program and then deploys it to the agents on which you want to run the program. No additional steps are required, and you won't have to use DevOps resources to deploy it.

12. THE TIBCO CLOUD INTEGRATION MARKETPLACE

The capabilities of the TIBCO Cloud Integration platform are increasing continuously. In particular, the TIBCO Cloud™ Marketplace is where you can access application and technology connectors built both by TIBCO and members of the TIBCO Cloud Integration community. You benefit from the innovation of the entire community, which is constantly expanding the universe of cloud and on-premises applications. TIBCO adds new connectors to the Marketplace on a regular basis, and customers can use these connectors to integrate new applications and data sources.

13. DEVELOPER PORTAL AND TOOLS

In addition to the TIBCO Cloud Integration Scribe API, TIBCO Cloud Integration provides a comprehensive set of developer resources to allow enterprises to extend the platform. All these resources are available on the TIBCO Community.

SOFTWARE DEVELOPMENT KIT

The TIBCO Cloud Integration software development kit includes the following tools to help you connect to new applications:

The Connector Development Kit

The Connector Development Kit can be used to create a new connector for unique software solutions as well as legacy systems. Complex connectors can be built within weeks.

The Fast Connector Framework

The Fast Connector Framework is a lightweight edition of the Connector Development Kit; it can be used to create simple connectors in days.

The Fast Messaging Framework

The Fast Messaging Framework is a toolkit that allows business analysts to build a connector in a matter of hours instead of days or weeks. It allows you to receive data from another application in the form of an outgoing webhook message.

SAMPLE APPLICATIONS

TIBCO Cloud Integration and its user community have built sample applications that show you what is possible with the TIBCO Cloud Integration API and Software Development Kit, including these samples:

Documentation App

Documentation App—an app that auto-generates documentation of your integration project that can be used to monitor changes in your integration flows or to pass on knowledge to maintenance teams. Because it's API-driven, you can publish the documentation into a Google, Microsoft Word, or LaTeX pdf document.

Amazon Echo/Alexa App

Amazon Echo/Alexa App—create your own custom skill for Amazon Echo devices so you can verbally communicate with Alexa. Alexa can also fetch information from your systems using TIBCO Cloud Integration request/reply capabilities.

REFERENCE APPLICATION

The TIBCO Cloud Integration Reference Application gives you a framework for communicating with an application (without having to connect to that application) and accelerates the development of your application logic. The Reference Application also gives you a jumpstart on how to use the TIBCO Cloud Integration API to quickly integrate your other solutions with your integration platform so you can build new, custom solutions.

THE END RESULT: ACCELERATED DATA INTEGRATION

Enterprise architects face a constant challenge in making sure their IT infrastructure delivers the functionality, performance, and flexibility that employees, customers, and business partners require. These demands have only increased as organizations strive to be more agile, digital, mobile, and responsive. The TIBCO Cloud Integration iPaaS helps you take on this challenge by providing a fast, flexible, and future-proof platform that reduces the time and cost of integration development and maintenance.

In comparison to other iPaaS solutions and writing your own custom integrations, TIBCO Cloud Integration offers significant advantages while also accelerating your data integrations. Start a free trial to find out for yourself.