



Integration: Why “Good Enough” Doesn’t Cut It

13 ways to mess with success

Digitalization—the process of exploiting digital information to maximize business success—has increased the value of your data to the point where it is arguably your most important asset. You need it for customer interactions, business processes, services, decisions—all parts of the business—and it’s abundant, both inside and outside your organization.

However, the fact that it exists is not the same as that it’s available and actionable.

That’s why—no matter what size your organization—integration is a capability you must master.

This paper explains why mastery will not be possible with merely adequate (“just good enough”) integration technology. “Good enough” will in the end produce a massive negative impact and prevent you from maximizing success (digitalization) in all areas, including:

The user experience. Attracting consumers to a new mobile application is already a challenge and requires inventing a different kind a service. Keeping users engaged and returning is an even greater challenge. Lack of availability and performance—or inability to continually add value by integrating or adapting services—immediately impacts the user experience.

BY 2016 . . .

. . . integration of mobile device data will account for 20 percent of integration spending.¹

. . . 50 percent of new integration projects will involve on-premise applications, e-commerce trading partners, and cloud services.²

. . . midsize to large companies will spend 33 percent more on application integrations than in 2013.³

BY 2017 . . .

. . . 60 percent of new integration projects will leverage embedded analytics.⁴

BY 2018 . . .

. . . the 10 largest B2B networks will have evolved into API networks.⁵

. . . electronic B2B interactions will outnumber non-electronic ones.⁶

Processing power. Exceptions (faults) are a fact of life. They happen because, by definition, integration connects multiple technologies and data sources, including external sources. When not resolved quickly, exceptions will impact quality of service and your ability to uphold service level agreements. They therefore have a cost, which is increased by the time and effort it takes to correct them.

Decision-making. From the C-Suite to the manufacturing floor, most decisions are based on data. A lack of data or a lag in its availability can lead to misuse of assets and increased costs, or more serious consequences in industries like healthcare or transportation.

MASTERING INTEGRATION MAKES YOUR DATA AN AVAILABLE ASSET

Cloud, mobile, and social forces supply opportunities for any size organization to compete with those several orders of magnitude larger. Yet the fundamentals of integration remain the same: Whether you're big or small, if you integrate and manage your data as an asset available for use in various contexts, you will have many opportunities to transform it into value.

Today, smaller organizations, departmental IT services, or even lines of business outside of IT need to satisfy integration needs. These users may have narrower application landscapes, or budget and resource constraints, and want a package or a cloud service that fits their needs and their budget. Whatever the need, the value of integration will not diminish; However, the corollary of that value is the importance of choosing the right integration platform.

A “good enough” platform resulting in “good enough” quality will not only prevent you from managing data as an available asset, it will directly impact your ability to provide fast results, causing costs to spiral up. This is why it's essential to understand what capabilities will enable (or prevent) you from building the integration foundation you need. Consider how these 13 “good enough” capabilities can mess with your success:

1 “GOOD ENOUGH” DESIGN ENVIRONMENT.

Many integration platforms lack the ability to graphically sequence high-level logic, forcing developers to code basic functionality—such as data transformation—in various and sometimes proprietary scripting languages. While seemingly efficient for quickly integrating two applications, this approach prevents reuse of the integration logic. The next time you need to integrate with one of the applications, you will probably need to code from scratch. The lack of reuse increases time to results, the cost of maintenance, and the need for more highly skilled, and therefore more costly developers.

2 AN “OPEN ENOUGH” PLATFORM.

The ability to enrich the integration platform with functions or components specific to your industry or context is important. These include logging, specific data checks, and other processes. Some platforms will only let developers use custom code in the integration logic, or code components in technologies adjacent to the platform (such as an application server). Updating these components can become a nightmare that forces redevelopment of both integration and custom components.

WHY MOBILE DATA MUST BE DELIVERED QUICKLY

Expectations of mobile users are high and the consequences severe for failing to meet those expectations. Earlier this year, the news site ReadWrite published research showing that one-third of mobile users will go to a competitor's site if your site is not functioning. In addition, 74 percent of mobile website users and 50 percent of mobile app users will exit if the system does not load within five seconds.⁷

WHY A GOOD USER EXPERIENCE IS ESSENTIAL

Sixty percent of customers base their selection of a new brand on customer service. Compare this to only 49 percent who indicated that the product was a major factor, and you see the importance of providing a good customer experience. It is more important than the product.⁸

After they have a bad customer experience, 55 percent of survey respondents indicated they would switch to a different vendor.⁹

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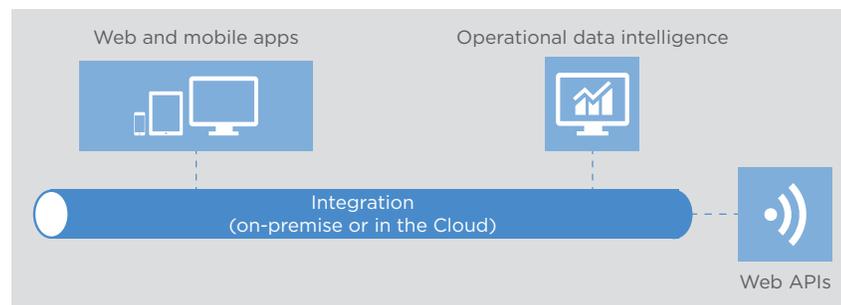
3 A "CONNECTED ENOUGH" PLATFORM.

Many vendors provide a list of connectors for cloud applications and their own applications. But what happens when a connector is needed that's not on the list? Downloading one from a third party is obviously faster than developing it—but also much harder to maintain after the API of the target application has been updated. Further, integrating to on premise applications is just as important as integrating to cloud applications. You need the ability to connect the systems that matter today and in the future. Without broad connectivity, you will face much higher integration costs and slower time to results for many projects.

Business-to-business exchanges are also a key aspect to consider. A specific set of integrations are required in some industries for compliance or for connectivity with various partners. Advanced capabilities that address more than just technical complexity may be required, such as for handling business issues including partner onboarding and committing to service level agreements.

4 A LACK OF ORCHESTRATION.

Connecting two applications is easy because the logic can contain all the adaptations required. But when data is needed from additional applications, the system needs to enrich information, or invoke several systems in the same process, or orchestrate an invocation of several applications. If the integration platform doesn't have this capability, you will have to develop the logic elsewhere, typically in an application server, or worse, in the target application. For mobile applications, executing this logic on a device with constrained resources may not be possible. Without orchestration, you will again face a lack of reuse and an increase in development, maintenance, and management.



Integration evolves. While SOAP was all the rage for service-oriented architectures, REST is now increasingly used inside and outside the firewall. The API acronym is now well understood because of its role in cloud, mobile, and social forces. In today's hyper-connected world, integration is key for providing a new generation of services in which aware and proactive applications will define the user experience. Yet all the ways that integration has been used over the years remain or will even increase.

ADVANCED INTEGRATION PLATFORMS

The foundation of thousands of the world's most advanced integration architectures, TIBCO ActiveMatrix BusinessWorks™ provides all the capabilities for supporting the right quality and services:

- A standard IDE empowering developers to easily and graphically design and debug integration processes. The model-driven approach allows managing all types of data (JSON, XML, COBOL, etc.) in a consistent and simple way.
- An open platform that can easily be extended via a Java API to create custom components that will be managed as standard components.
- Connectivity to all types of applications, from SaaS and cloud APIs to legacy applications.
- A great level of automation, from continuous integration to continuous deployment.
- Scalability through an embedded in-memory data grid and high availability out-of-the-box.
- The foundation on which you can launch API management, master data management, and business process management initiatives, enabling truly innovative and differentiating business initiatives.
- The foundation on which you can launch operational data intelligence using our leading events processing technology including unique real-time datamart, TIBCO StreamBase Liveview®.

TIBCO BusinessWorks™ Express is an entry level integration platform built on the same industry-leading technology as ActiveMatrix BusinessWorks. In addition, TIBCO allows you to leverage its integration platform as a cloud service via TIBCO Cloud Bus™ platform as a service.

5 “GOOD ENOUGH” DATA.

Can you trust the quality of your data, especially when it comes from many sources or contains fragments describing key business objects (customers or products) that are scattered across several applications? Manually identifying duplicate data, or even adding specific data quality code into an integration process, is difficult, not reusable outside of the specific process, and a maintenance nightmare each time the quality constraints change. An integration platform with provisions for master data management (MDM) solves this problem.

6 “GOOD ENOUGH” OPERATIONS.

DevOps collaboration does not mean these teams want to develop their own operational tooling. A platform that does not automate deployments, and potentially the continuous integration of development, will need to be extended with a set of custom tools. This initiative will be costly in development and maintenance and force you to support the developed components in production. Platforms that let you also deploy on the cloud may sound economical, but can be operationally challenging as well as limiting in terms of opportunities for automation. Costs associated with delays resulting from the lack of automation can be an unwelcome surprise.

7 “GOOD ENOUGH” PERFORMANCE AND SCALABILITY.

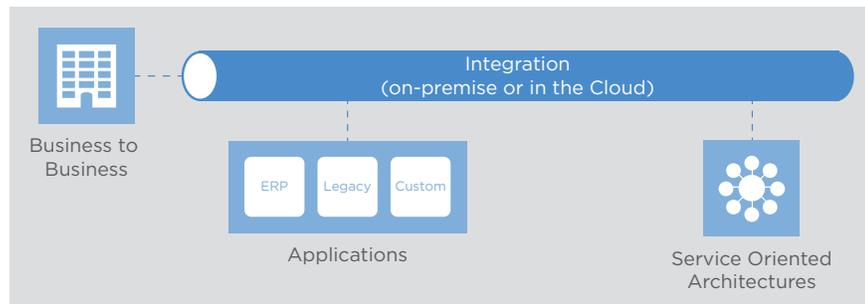
Many recent use cases, including web and mobile integration, require processes with a latency supporting a good user experience. Performance, or the lack of it, depends on whether resources are on premise or in the cloud, the number of concurrent users, and the complexity of the logic implemented. An integration platform that can't scale and perform as required very negatively impacts an organization that successfully launches a mobile app only to see the user experience degrade due to too much success, too many concurrent users. Such a platform will not only impact quality of service, but reveal hidden costs, sometimes too late to be mitigated.

8 “GOOD ENOUGH” AVAILABILITY.

Integration availability requirements vary across projects. While this variation may not seem relevant for a tactical project, failure to factor it into the mix can prevent the project's reuse and lead to additional costs. Some platforms will require extension or a significant investment in clustering hardware/software. Even in the case of cloud deployments, if and how availability can be ensured to avoid additional costs, or worse, a damaged user experience, must be considered.

BUSINESSWORKS VALIDATION

According to an independent third-party study by Appvance, ActiveMatrix BusinessWorks has a lower TCO than most other integration platforms, including open source platforms.



Business-to-business (B2B) interactions are a requirement for supporting major processes such as delivery, provisioning, and sales and distribution by a network of partners. This level of automation requires efficient connections with internal applications. When you can automate B2B exchanges, speed of implementation becomes a business differentiator, enabling partnerships to be rapidly formed.

9 “GOOD ENOUGH” VISIBILITY AND EXCEPTION MANAGEMENT.

Once the integration is running, do you assess the state and health of the platform and the integration processes in real time? Or do you rely on customers to identify when an issue occurs, and then respond with level 2 experts digging into logs to understand what happened? One, albeit poor alternative, is to create a monitoring framework by instrumenting the processes (using additional logic), which adds more overhead and increases integration latency. And can this system notify the right resources to take care of the exception and ensure the shortest resolution possible? Beyond increased development and maintenance costs, the impact includes longer time to results for any project and reduced quality of service.

10 LACK OF OPERATIONAL DATA INTELLIGENCE.

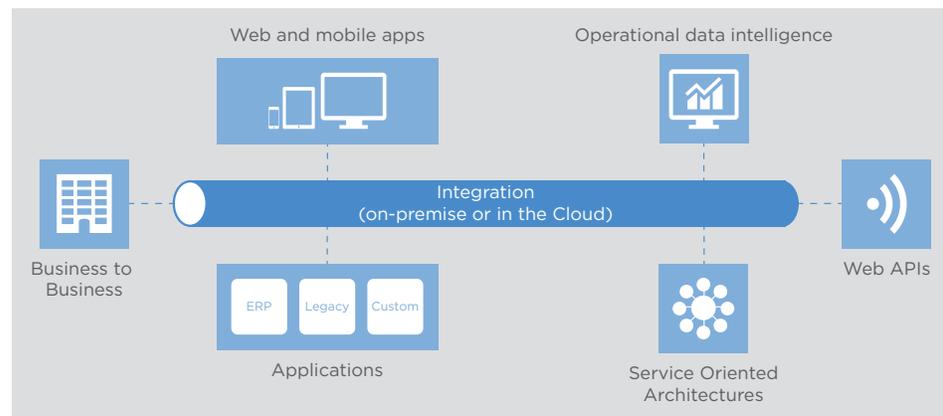
Can you capitalize on the data you’ve integrated? Integration processes use data to run a business process, make a decision, or enact a service. This data may have value in other contexts, as well. Aggregated, it can be a good indicator of business activity, or useful to a warehouse worker pulling stock for an order that has just been altered. While the value is undeniable, can you capture, aggregate, and provide this data to parts of the business that could benefit from operational data intelligence? If not, at some point, you may need to create a custom application, at additional cost.

11 “GOOD ENOUGH” HYBRID FLEXIBILITY.

Organizations match integration needs to various deployment or consumption models. Are you chained to this model, or do you have the flexibility for a truly hybrid approach, a portfolio of deployment options? For example, can you deploy pilot projects to the cloud, quickly spin up environments, and choose the final deployment when viability is proven? Or can you deploy the integration closer to the applications involved if you want? If the flexibility and ability to manage the complete platform and adjacent technologies in a hybrid way is not possible, at some point, you may incur costs for changing or adding a deployment model and managing and maintaining the platform as a single entity.

12 “GOOD ENOUGH” SUPPORT.

Some initiatives will be crucial, some not. In either case, the value of the initiative will be maximized if you can tap into best practices for launching and executing. You need a community, an ecosystem that can provide this support. Whether your initiative is mission-critical or not, you must be certain that you can rely on your provider for the right level of support. Has your integration platform been proven for the use cases you envision, or are you an early adopter of these applications? It might take time before you reach the point where you can really assess if you have the right partner. At that point, if you haven't chosen well, the exposure to risk may slow your plans, increase the costs of supporting your own platform, impact quality of service, and add to lost opportunity costs. Of course, the best partnership contributes to your business in ways that far exceed issue resolution.



Integration plays a key role in service-oriented architectures, providing the adaptation and orchestration to expose standard services and events from all systems. These can be used and reused to build applications and business processes, and when secured, also exposed and shared outside the organization. Integration also decouples systems, which supplies opportunities to retire and add systems without major impact on the business.

13 “GOOD ENOUGH” COST.

One of the core drivers for adopting a “good enough” integration platform is perceived lower costs, and at first, some solutions will be cost-efficient. However, very often, just when the platform should be working to keep costs down, additional costs appear in the form of:

- Lower productivity because of needed custom development and lack of reuse
- Increased maintenance because you have to support the platform
- Delayed projects due to the lack of expertise to setup these “good enough” platforms for mission-critical applications

Another perception just as strong as “good enough platforms are affordable” is “leading platforms require a huge investment.” This is false. Products have evolved along with the market. Leading technologies are now offered via a subscription relative to the size of the integration project or with very aggressive pricing (lower than yearly open source subscriptions).

GO WITH PROVEN

You owe it to yourself and your organization to go beyond “good enough.” Using a proven platform that is the foundation of thousands of the world’s most advanced integration architectures will mean:

- Faster development from model-driven design and a high level of automation that ensures a short time to results
- Reduced current and future costs of integration initiatives with easier maintenance and greater reuse of integration processes

A proven platform will also mean that you have the foundation for providing highly valuable business benefits:

- Greater customer experience and quality of service with improved execution of integration services and data availability
- Improved flexibility and reach with the ability to onboard any technology and engage with customers and employees across all channels
- Improved business agility with the ability to establish new partnerships and assemble new offers and services with leading integration capabilities at low TCO

Learn more about TIBCO’s integration platforms at www.tibco.com/products/automation.

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- 1 Gartner. Predicts 2013: Application Integration. Benoit J. Lheureux, Massimo Pezzini, Jess Thompson, Ross Altman, Daniel Sholler, w. Roy Schulte, Paolo Malinverno, Eric Knippvv
 - 2 Gartner. Predicts 2012: Application Integration Will Increase in Scope and Complexity, Benoit J. Lheureux, Jess Thompson, Yefim V. Natis, Massimo Pezzini, Paolo Malinverno, Tim Weaver, and Ted Friedman.
 - 3 Ibid. 2012
 - 4 Gartner. Predicts 2014: Nexus of Forces Drives Evolution of Integration Strategy. Benoit J. Lheureux, Massimo Pezzini, Paolo Malinverno, Jess Thompson, Deborah R. Wilson.
 - 5 Ibid. 2014
 - 6 Ibid. 2014
 - 7 Equation Research. What Users Want from Mobile, July 2011.
 - 8 <http://www.parature.com/2013-customer-expectations/>
 - 9 Ibid. Parature



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