10 Steps to jumpstart your Integration Projects

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10 Steps in a Nutshell

1. Why you need an integration Solution?

2. Who will use the integration solution? Know your users and their needs

3. Defining Integration -What Technology options and solutions do you have?

4. What existing business systems and process you currently have?

5. How will you implement the solution? Customizing the core setup

6. Data mapping considerations

7. Data synchronization

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Data integration involves integrating existing (often disparate) subsystems and data sources and then creating unique and new value for the customer or end user. This ebook lays out essential steps to take and things to consider while beginning an integration project.

Data integration is becoming a hot topic. In the past, the job of integrating systems was a complex, often costly, frequently cumbersome process, involving on-premise integration tools. Most companies run two or more applications and are therefore likely to consider some form of application or data integration to avoid problems with inconsistent data or fragmented business processing. This means CIOs, CTOs, application managers, cloud/software as a service (SaaS) managers, IT directors, service-oriented architecture (SOA) architects, integration managers, B2B e-commerce directors and other IT leaders often have to choose how to implement integration projects. Selecting the correct approach is a complicated task. One complication is that there are over a dozen types of integration products and services on the market. Another complication is that your best choice for integration will depend on a wide range of commercial and technical factors. Choosing the right approach to integration can save you money and help ensure integration project success. Choosing unwisely can increase the cost of doing integration or prevent you from meeting business-related objectives. In order to maximize success and minimize re-work, a business evaluation should start and guide each integration effort.

Digital transformation projects present "pervasive integration" challenges that are pushing IT leaders to redefine their integration infrastructure strategy. These days a hybrid integration platform is taking over as the integration platform of choice for new integration projects. In fact, according to Gartner, 20% of large organizations are already beginning to implement a bimodal, DIY integration approach via Hybrid Integration Platforms (HIP) to enable seamless connectivity across the enterprise. This ability to integrate anything, anytime and anywhere can be used as a powerful tool for businesses who want to drive innovation and create lasting competitive advantages.

Questions to consider before beginning your integration efforts:

These are just a few of the fundamental questions that should be considered in planning your integration solution. Before beginning a data integration project, you need to understand the environment and implications of the data integration project.

Firstly, you need to understand and answer "why, who, what, how" that pertains to the integration project.

Why you need the solution?	Trigger or business pain that initiates the integration project.
Who will use the integration solution	Integration Personas/constituents- People involved in integration
What options do you have	What Technology options and solutions do you have?
How will you implement the solution	Business processes that will need to be changed or added.

After getting past the 'why' of an integration project, you can get some results with the 'what', but to get real value you need to involve all the other aspects. A Gartner article on the stages of integration maturity shows how organizations can assess and improve their integration competency.

Below are the ten steps that will guide you in beginning your integration projects:

1. Why you need an integration Solution?

Most integration vendor applications are feature and function rich, providing organizations with a host of configurations from which to choose. It is critical that you know what your business goals and outcomes you are striving to achieve. This will allow you to implement and use the functionality best suited to meet your unique business needs; but, it also means that no two implementations are alike. As a result, the integration use case required for one organization may not be required for another organization. Hence, it is very important to understand your integration scenario, specific use cases, your current state or integration environment and the future state that you are trying to achieve by implementing this integration solution. You need to assess the degree to which your established integration infrastructure can support your requirements (in terms of use cases, endpoints and fit-for-constituent user experience) and identify functional and nonfunctional gaps.

To understand your unique integration needs, ask these questions:

- **Core vs. Context:** Do you consider doing integration a required internal core competency or is it context, something you don't need to do yourself?
- **Capital Expenditure vs. Operating Expenditure:** How would you prefer to pay for integration — as a capital expense (e.g., software, developers) or as an operational expense (e.g., outsourcing)?
- **Integration project center of gravity:** Is your integration project mostly application to application (A2A; on-premises), B2B, cloud-centric or hybrid?
- **Total Cost of Ownership (TCO) Comparison:** Which approach offers the lowest TCO if you estimate the sum of one-time implementation and ongoing integration project costs over the life of your project?
- **Internal competency or outsourcing:** Do you have the IT assets and skills to undertake the implementation project? If not, do you have the capacity and desire to obtain them? Do you simply have a strong preference for doing integration yourself, or do you prefer outsourcing?
- **Provider suitability:** Do you have access to viable providers of integration middleware and/or services that can address your needs for your industry, region and unique project requirements?
- **Experienced integration provider:** Do you have a well-established technology or service provider that you can leverage for your new integration project?
- **Time to deployment:** Which integration approach (point to point, IpaaS, hybrid integration platform, ESB) will make it easier to meet an aggressive time-to-deployment requirement?
- **Degree of anticipated and unanticipated change:** Change is inevitable, does you integration solution adapt to rapid changes? How often must you make changes to your integration project(s)?

2. Who will use the integration solution? Know your users and their needs

A true hybrid integration platform as defined by Gartner, should provide tools and unique user experience for all integration personas and constituents within an organization to empower them.

Hybrid integration platforms seek to standardize monitoring, management, security and administration across

all platforms with their capabilities while taking special care to meet compliance goals.

- **Integration specialist:** This role is responsible for developing and implementing integration strategies.
- **Ad hoc integrator or business analyst:** Self-service, line of business developers who are experienced in working with complex systems.
- **Citizen integrator:** Also, self-service, this group includes data scientists and business users. According to Gartner, citizen integrators "seek to perform integration tasks as a whole, and generally do not differentiate the processes of integrating data and applications, thus spurring application leaders to re-evaluate traditional integration practices."
- **Administrator:** A system administrator responsible for data quality and lifecycle functions.

3. Defining Integration – What Technology options and solutions do you have?

Each vendor involved in the project will have its own definition of an integrated solution. To some, it means that they have standard Application Program Interfaces (or APIs) used to perform specific functions within their application. For others, it means they can create and/or receive file interfaces in specific formats to exchange data with other applications. Both these and other approaches constitute a form of integration with other applications.

But buyer beware—you must ask vendors some very pointed questions relative to their definition of integration- what integration use cases do they support? What endpoints can they integrate with: On-premises devices, the cloud, mobile devices and IoT devices? What integration domains do they support - Application, data, B2B, Things (IoT), process, embedded? Identify the integration personas- who are going to be doing or using integration services in the organization? Do they support Hybrid deployment models meaning – in Cloud (potentially across multiple environments), on-premises, hybrid (cloud and on-premises) and embedded in IoT devices? Is the solution future -proof meaning – Is it versatile, extensible and agile enough to suit my changing business requirements?

4. What existing business systems and process you currently have?

Get an exhaustive view of your business systems and have a definite understanding of business processes involved. Gather any documentation and reliable information you have access to, especially technical specifications. Many times, additional hardware and/or software are required to integrate a source application with the target system. And usually, it's the buyer's responsibility and expense to purchase, install, and support these components. A frequent cause for this scenario is when clients choose not to upgrade their systems and, consequently, run an older or no longer current version of the application. In some cases, older versions of their source application are "integrated" with the target applications, but newer versions have not been. Therefore, two key questions to ask any integration vendor are: "Which versions of source and target application does your solution support?" and "Which versions are you currently selling?"

5. How will you implement the solution? Customizing the core setup

Any integration solution provider offers clients the ability to create highly customized solutions which will meet their requirement through their core processing platforms. As a result, no two core customers' integration solutions are exactly the same. Moreover, the unique combination of features and functions may make integration exceptionally difficult—and in some cases, impossible—and for this same reason, integration solution providers have made generic "plug and play" and reusable templates which allow buyers the ability to set up interactive connections between source and target applications for ready use.

6. Data mapping considerations

Another key factor to consider is the data structure between two systems. If one system has fields that are longer than another system, there will be truncation of data. In addition, data types and data formats could differ between two systems. To prevent this, any integration needs to acknowledge and consider a design that addresses this issue.

7. Data synchronization

This step helps in establishing consistency among systems and subsequent continuous updates to maintain consistency. The word 'continuous' should be stressed here as data synchronization should not be considered a one-time task. It is really a process which needs to be planned, owned, managed, scheduled, and controlled. The requirement for today is that systems need to speak to each other in real time. In such cases, data synchronization helps an analyst to check whether data fields which are mapped are moved correctly between source and target systems.

8. QA Process

Integration quality control has to be different from traditional quality control processes of phased unit, system, and integration testing as a resource who is performing the integration testing process should have the knowledge of source and target system and their behaviors under defined scenarios and record the test results appropriately which will not only save time and effort of the company but also of the client.

9. Plan for Go-Live and Support

The production readiness outlines the list of criteria needed from a project before an integration project is deployed in the production environment (e.g. data quality, go-live dates, staging/production environment readiness, or as determined by the project sponsor and/or production support manager). The list is to be used as a guide by a project manager and client manager to check on agreed data migration and mapping and give consent to actually Go-live. The purpose of this phase is to cut over to live productive operation and to continuously support and improve live operations. The next step is "Go-Live and Support" phase which consists of two distinct phases. First, the project is completed with a formal "Project Closing." During this time, the system is used productively in day-to-day operations, all issues and problems are resolved, transition to the production support team finalized, knowledge transfer completed, and the project signed off. Subsequently, the "Support" phase begins during which the production support team monitors the system and resolves live business process issues depending on the mutually agreed SLA.

10. Identify a dedicated point of contact, project champion.

This person will engage all the right stakeholders in the most effective and efficient manner to remove roadblocks and track progress and help drive the integration project towards successful implementation.