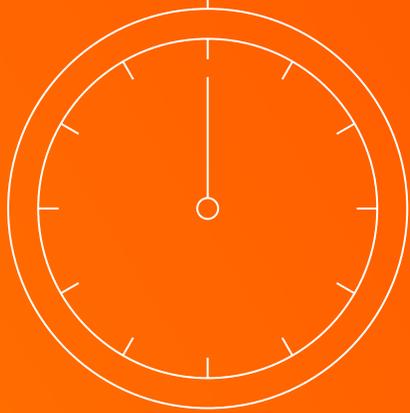




Informatica™



# 30-minute Guide to Multi-Cloud/Hybrid API and Application Integration



Multicloud and hybrid integration accelerates your business operations and provides the right insights at the right time for high-impact business decisions.

Application integration is a critical success factor for data-driven digital transformations. Integrating systems and applications that are scattered across multicloud and on-premises deployments helps you deliver the insights, processes and efficiencies you'll need to unleash the power of data and take your business to the next level.

Trusted, real-time data will drive your competitive edge. But IT infrastructure often misses opportunities to fully leverage data for decision-optimizing insights because the data is siloed in countless applications, databases, and across disparate cloud environments.

Below are a few examples of effective integration initiatives that delivered critical insights to the business:

- An online retailer gains insight into which customer bought what products at what intervals—helping them target individual customers with the most effective offers. They accomplish this through real-time integration between key customer systems.
- A global conglomerate needs to integrate multiple CRM applications across business units to gain a single, global view of their customers. This enables them to provide better customer experiences and product recommendations at customer-appropriate times.

In addition to internal data, businesses increasingly need to incorporate external data, such as:

- Weather information for agribusiness
- Regulatory and compliance data for financial services and healthcare providers for different geo locations
- Social media data for any enterprise tracking customer sentiment

Beyond the multifaceted business requirements, the technical challenges for integration can be increasingly complex. A growing majority of businesses rely on multiple cloud providers for SaaS (Software as a Service), PaaS (Platform as a Service), and IaaS (Infrastructure as a Service) solutions, which can be difficult to integrate. Most enterprises also have a vast amount of data residing on-premises, which is typically in their databases, data warehouses, and data hubs.

It's time to think differently about your integration strategy as you move to multi-cloud and hybrid environments. You need to think in terms of a hybrid data management solution that works with any data or any use case as well as offers you the ability to start small and grow at your own pace—without disruption or

re-writing of code. You also need to consider a solution that integrates artificial intelligence (AI) for AI-driven productivity and scale to enable new users and to accelerate the productivity of your existing users.

Pulling together disparate data may seem daunting at first. But, with the right solution, it's easier than you may think. IT organizations can stay ahead of the competition and successfully integrate first-party and external data to drive real-time decision making. And mastering data—in terms of accessibility, timeliness, and trustworthiness—offers a clear payoff.

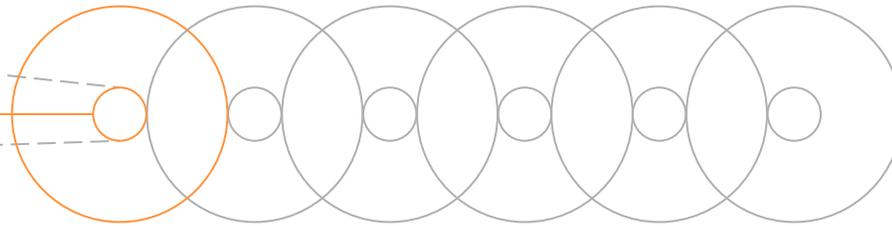
Based on insights from hundreds of successful application and data integration deployments, here are six key tips for success in a hybrid and multicloud world.



Section 1

# Key 1: Leverage Integration for Data-Driven Insights





**To address this complexity, you need to create integration processes with the right data, at the right time, and into the right business processes. And you have to ensure that the data is governed, trusted and secured. Below are some principles to keep in mind:**

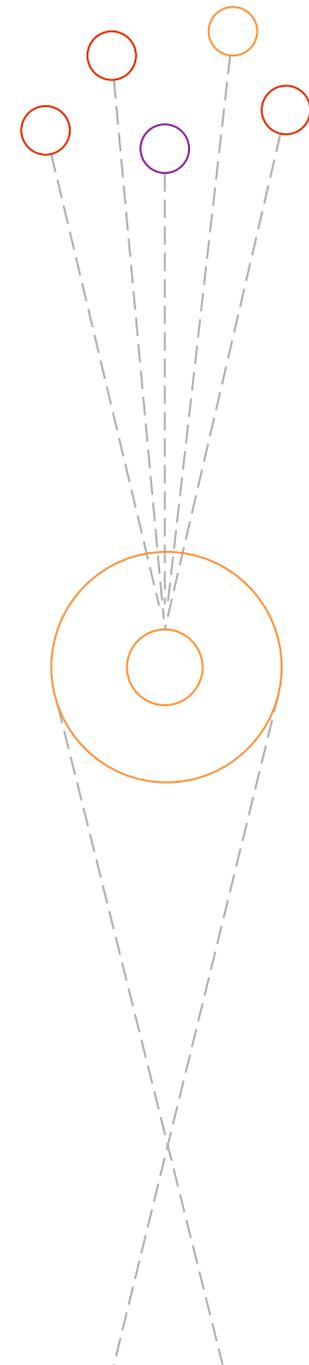
1. **Don't create more data silos.** As you incorporate cloud solutions to create a hybrid architecture or to expand a pure-cloud infrastructure, be sure not to create new data silos that slow down your business. For every database, data warehouse, SaaS solution, etc., map out how applications will communicate, and how data will be integrated, accessed, and used for operations, transactions, processes, and analytics. Also, plan for the timeframes that you need to provide data updates for maximum business efficiency and effective decision-making.
2. **Understand how you'll govern the data** and determine your master data management strategy for a single source of data truth.
3. **Build real-time integrations for data for zero-latency processes and transactions—** Certain business processes require microsecond streaming data (e.g., from devices), while others require updates within seconds or minutes, such as insurance rate information that is an amalgamation of data, like geography, rate table, and risk profiles, residing on several cloud applications or inventory data from legacy ERP applications, for checking patient procedure eligibility (when customer is on the phone).
4. **An integration solution must be versatile—** able to address any relevant use case and integration pattern important to your business. That may include real-time operational data about your business processes—such as how an online retailer may leverage, in the moment, a web visitor's previous buying history or behavior on the site to display the most relevant offers for that visitor. Your business may also require the use of analytical insights derived from historical activity. For example, that same online retailer may look at monthly sales data and analyze the effectiveness of various advertising and marketing initiatives and how they've contributed to top-line results.
5. **Lastly, privacy and protection of data is critical.** Make sure you check if your vendor is SOC II, GDPR, HIPAA (to name just a few regulations) certified for your data. All sensitive information should be encrypted using industry approved and commonly used algorithms. Externally validated certifications, assessments, and standards keep your data—and your customer's data—safe.

### Integration in Action: Camping World

Camping World, a leading outdoor retailer, faced a number of data and application, as well as broader data management, challenges surrounding their Salesforce and on-premises applications. For example, Camping World had customer data in three systems that were not integrated (preventing the company from identifying a “single customer source of truth”). Were customer addresses up to date? If they conflicted, which address was correct? The simple need for accurate physical or email addresses to send out a brochure became a significant data management challenge. There were other challenges: Could the company segment out, for example, preferred customers? When a customer called about an order, could the service desk agent access current and correct data?

To learn how Camping World streamlined its integration and data management processes, provided trusted customer data, and marketed more efficiently, listen to the webinar.

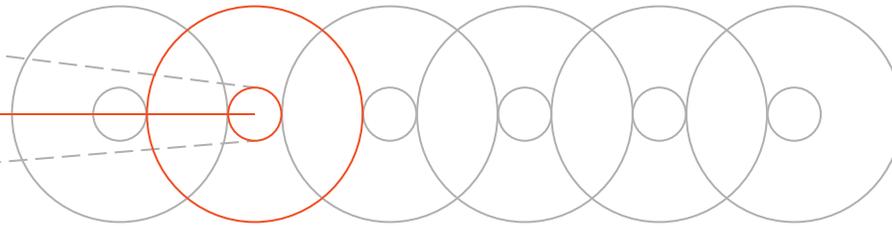
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Section 2

# Key 2: Develop and Leverage APIs for Integration



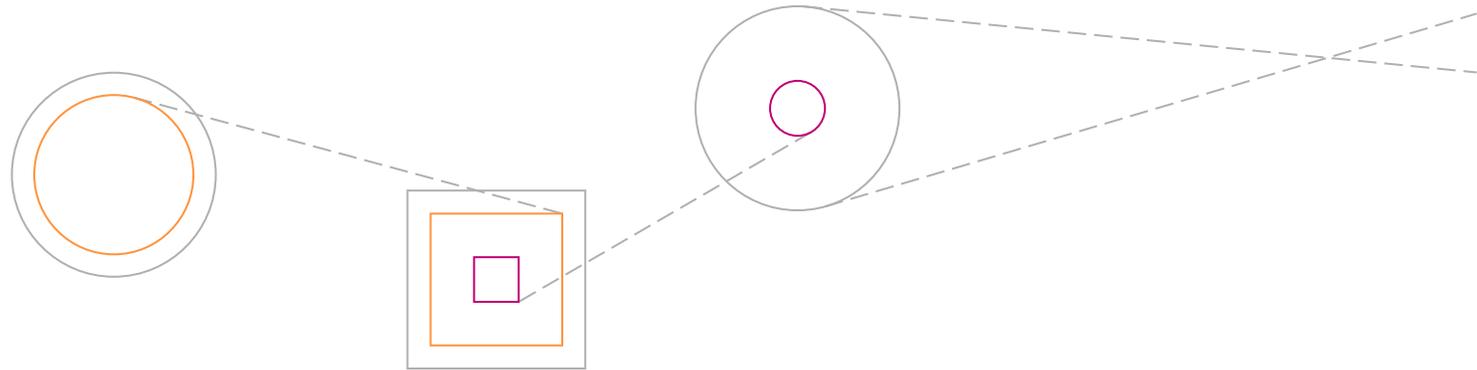
APIs—application programming interfaces—facilitate easy access to services, data, and other assets residing on-premises and in the cloud, within your firewalls, and throughout your entire supply chain—without the need for writing custom code to connect each link in the chain.

By using established code that knows how to connect specific systems, you can create integrations instantly. As your business grows, with multiple apps running on multiple clouds and on-premises, the benefits of exploiting APIs to connect to the various systems grows because this is the most efficient way to integrate.

### **API Management**

When there is a plethora of APIs in use across your organization, they should be managed appropriately. For example, they will typically need to be published, secured, and offered to partners. There are multiple API management solutions with varied capabilities, allowing you to match your top priorities and use cases to the most suitable vendor offering. For instance, if providing access to external partners is a top priority, pay extra attention to the security aspects of your API management. If API monetization is critical, look carefully at the ability to track usage.

As simple and liberating as APIs are, they're complex enough that in many organizations they are developed, used, and consumed only by an elite group of developers. APIs need to be made accessible to everyone. These three principles will make APIs more accessible and useful to a broader group:

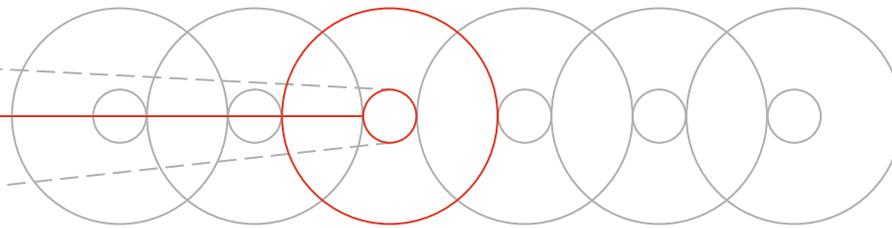


1. **Democratization of APIs:** Avoid limiting development of integration APIs to elite Java-class developers and contractors. With the right integration solution, you can empower current members of your data and application teams to build data, application, and orchestration APIs using simple point-and-click tools. This is a game-changer for organizations that have been bottlenecked by limited availability of consultants and overloaded IT teams.
2. **Advanced Data Access to Any Data, Any Pattern, Any Latency:** The first key highlighted the criticality of data in driving business success. Enterprise IT should have the broadest ability to access and manipulate data through APIs: the ability to orchestrate, ingest, synchronize, replicate, and transform any data or metadata with APIs—whether cloud or on-premises—at any speed and with any specified latency. The ability to introspect data lineage and payload as well as manipulate payload, such as data masking, is critical.
3. **AI-enabled Metadata Discovery:** Data comes from anywhere and too often is not described accurately. This can limit your ability to discover and trust your data. Integration solutions incorporating robust AI tools are changing that by helping users automatically discover and describe data for usage in various integration scenarios. Whether you are processing large bulk datasets, enabling automated API metadata discovery, exposing or making API calls, or initiating mass ingestion of data, AI-based metadata tools can add meaning to, and enhance the value of all of your data.



Section 3

# Key 3: Embrace Mobility for Integration



Your workforce is becoming relentlessly more mobile. Your full-time employees expect increasing flexibility, such as off-hours access and work-from-home opportunities. Of the 10,400 businesspeople in 140 countries who participated in Deloitte's 2017 [Global Human Capital Trends survey](#),<sup>1</sup> 68% agreed that "a mobile workforce is an enabler of business and talent strategies." Fully 75% of companies worldwide have instituted flexible workplace policies—and 83% say it has boosted productivity, while 61% say it's increasing profits, per a [2016 global Vodafone survey](#).<sup>2</sup>

And then there are your remote teams. According to Deloitte's [2018 Global Human Capital Trends report](#),<sup>3</sup> only 42% of survey respondents say their organization is made up primarily of salaried employees—and that

number is declining. Which means that mobile access isn't just some kind of modern perk, but a key enabler of your basic business model.

What does this look like? Consider the sales executive out in the field, accessing corporate data on customers, product availability, and more, and uploading order information from a laptop in a hotel room or a smartphone in a Starbucks. Think about the complexity involved to enable this order process. Using her smartphone, a sales exec logs into her cloud provider (Salesforce account), which serves up the order page. Once she inputs the customer information, the order app makes a call to the customer database inside the firewall. The database successfully returns the customer data to the order app, which is then served up on the mobile device—all happening in real

time, in less time than it takes to steam the milk for her latte.

But this is just the end-user perspective. A developer may also want to access their integrated development environment (IDE) and runtime engine through their mobile devices, not only to view process flows and data, but also perhaps to define a new process flow. In an enterprise context, even brief outages can be very costly, and a key engineer or operations manager who's not at his desk might need immediate access to debug a piece of code, restart a failed process, or interact with a database.

IT has to provide the ability to securely access trusted, actionable data in real time to enable businesses and empower remote collaboration—especially in a digital age where working from home, at least occasionally, is a common occurrence. Each user needs all, or most, of the remote-device access and privileges outside the firewall that they'd have within the firewall. They need to see accurate data and the data they upload has to be integrated in real time.

Your integration solution must natively support iOS and Android platforms, while also supporting commonly used mobile

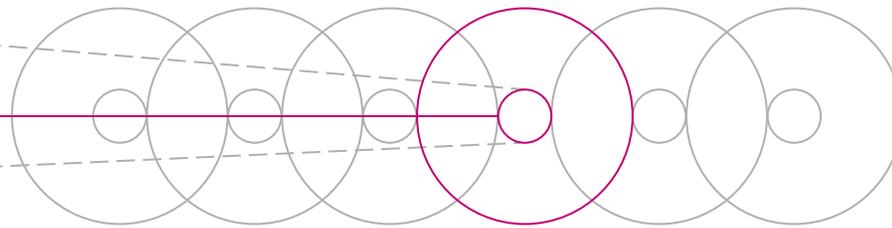
technologies such as Salesforce1 and HTML5. For a mobile-enabled workforce, your team members need access to a status view of all integration jobs and task flows as well as the ability to schedule integration tasks or troubleshoot problems—from any approved device.

In short, everyone in your business can have instant access to dynamic, real-time data from virtually any device, which is vital to the modern enterprise. Your company can't move at the speed business demands if your employees must always be tethered to their desks.



Section 4

# Key 4: Automate Your Integration for Productivity



Data is of no value if your management does not trust it. But the many ways in which data enters and moves through your organization creates countless opportunities for inaccuracies. A harried sales agent hand-types customer updates into your CRM and gets it wrong. A trainee forgets to include a “complete by” date on an order for a phone or internet installation. Countless tiny lapses can disrupt processes or make data unreliable.

It’s essential in a hybrid, multicloud world to improve both productivity and accuracy. A significant portion of data science tasks will be automated by 2020, resulting in increased productivity and broader usage by citizen data scientists. It’s essential, then, that you increase your use of automation to eliminate slow, error-ridden, manual processes and accelerate the process and data flow to maintain your competitiveness against increasingly sophisticated rivals.

Increasingly, artificial intelligence (AI) will mitigate this challenge. For example, AI can provide recommendations for managing data. Some examples include:

- Intelligently recommending data sets based on a users’ current activities
- Intelligently recommending how to cleanse or join data sets
- Automatically discovering the structure in unstructured data and automatically onboarding it

It’s also important that AI-driven automation supports how business processes are defined and integrated to reduce errors and inefficiencies. Automating integration processes allows users, such as developers, business analysts, or citizen integrators, to

discover and catalog all types of data and data relationships. Automation democratizes the process of data management. The following are some examples:

- Recommending tags for data based on previous user actions
- Inferring data context and meaning based on other similar data
- Intelligently suggesting next steps to business analysts or citizen integrators

A “zero coding” approach is also essential for democratizing application and data integration. We get there through templates whose prebuilt, reusable logic lets users define a process with a click. API integration, thus, takes literally seconds.

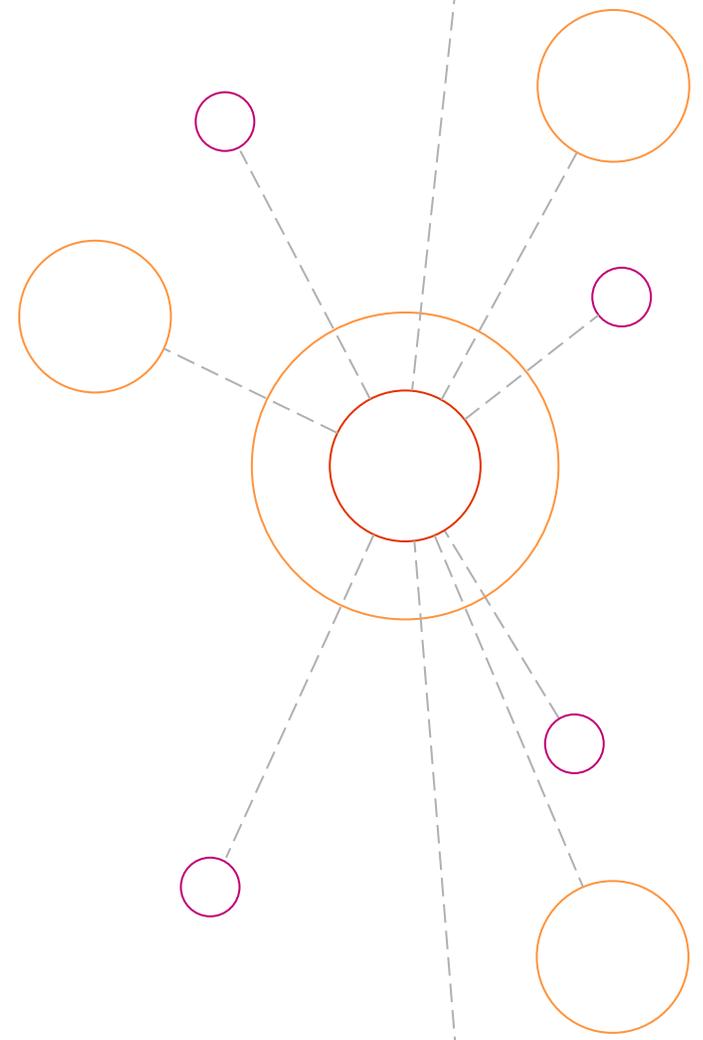
### Automation Case Study: British Telecom

British Telecom (BT) needed to leverage the power of automation to accelerate data-driven business processes. The telecom giant needed to streamline executive decision-making by providing a single view of nine Salesforce instances deployed across multiple business units. Bringing the data together was a manual, hand-coded process that could take up to two weeks to complete—costing the company insight and opportunity.

Using a cloud-based data integration solution, BT consolidated this data into a single, powerful Salesforce dashboard that gave decision-makers the data they needed—exactly when it could make a difference. As a result, BT decision makers were able to turn a manual process that previously took two weeks and considerable development into an automated daily feed.

“Data is key to us,” says Chris Hammond, a project director for BT Business. “We needed a single Salesforce dashboard for bids, and effectively went from a two-week manual process to a daily automated feed, which was a significant change, and the feedback has been tremendous.”

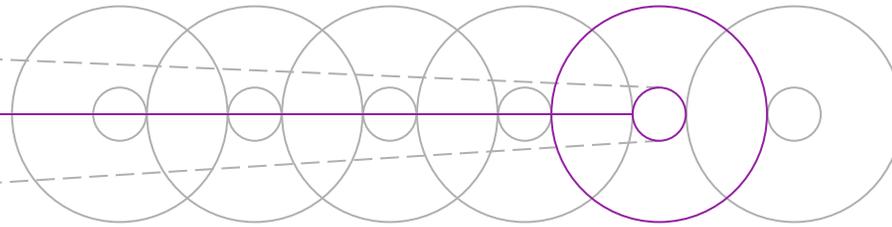
Learn more [here](#).





## Section 5

# Key 5: Future-Proof Your Integration Infrastructure



The fifth key is not about what you need today, but about what you'll require in the future. Does the solution that addresses today's challenges leave you vulnerable tomorrow? It's important to have a roadmap for the ongoing evolution of your integration and data management capabilities and to make sure that the vendors supporting you have future-focused, architecturally sound roadmaps.

Future-proofing your cloud/hybrid infrastructure isn't easy. (How many IT departments were actively anticipating AI or the Internet of Things in 2012?). Nonetheless, it's important that your integration solution—your entire cloud platform—factors in the future.

Start with what you know:

- The scale and complexity of data is constantly increasing so think about how you'll continue to incorporate more data and different, unexpected data sets.

- Mobility and remote work are increasingly common so think about how you'll continue to accommodate them.
- As the demand for velocity continues to rise, manual processes create the largest bottlenecks. How will you drive further automation?
- The age of the data scientist has evolved, where now more users are empowered to work directly with data and visualizations—without the Ph.Ds. So how will you increasingly translate complex technologies and data sets for business users?
- How well you adopt and embrace disruptive technology may determine how effective you'll compete moving forward. So how will you quickly integrate new cloud-based solutions and other innovations that haven't yet emerged?

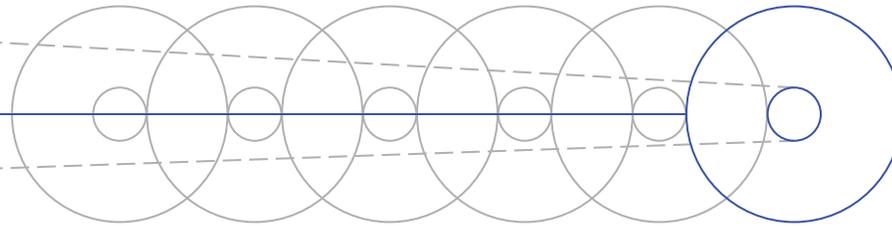
Many of these considerations go well beyond integration challenges—and beyond technology platforms in general. But at the integration level, many enterprises have moved beyond the table-stakes patterns such as API, data, and application connectivity. We also support B2B integrations, data hub, data quality, data governance patterns, and more as needs evolve.

A data integration solution built with a microservices architecture will provide you with the flexibility, capabilities, and capacity to easily add capabilities as technologies evolve and the needs of your business grow.



Section 6

# Key 6: Integrate at Your Pace



The sixth and final key is not about what you should do. It's about what you shouldn't do: Don't let anyone else set your cloud timetable. Vendors may try to lock you into a "robust solution" that promises to be a sudden, "complete" shift out of on-premises infrastructure or a consultant might insist that radical change is the only change. But as much as IT wants to lead the business to new heights of technological capability, it also has to avoid breaking everything along the way.

You may also be pulled from the other direction. IT may be ready to move key systems to the cloud or make the shift to cloud-first or cloud only, but other stakeholders in your enterprise, partner ecosystem or supply chain may be reluctant.

Where you're feeling the pressure to move too fast, you may reconsider your options, but ultimately you must stand behind your vision for success. Where stakeholders are holding

you back from that vision, you'll have to marshal your skills around collaboration and leadership to continue your forward progress.

The sixth key, then, is to evolve your journey to the cloud at your own pace.

The best-fitting solutions will offer powerful capabilities, seamlessly integrating cloud applications to accelerate business insights and deliver faster cloud-driven innovation. They will help you manage the complexity of hybrid infrastructures and enable self-service analytics, reducing time to market, optimizing costs, and increasing revenue streams. But only you can set the timetable.

The adoption of cloud technologies should not mean a blind rush to unplug your legacy infrastructure. Most legacy infrastructure has a complex set of dependencies that accumulated over many years, often without a clear, single roadmap as a guide. That means that every

time you look to shut down a server in your data center, a half-dozen dependent services may unexpectedly shut down, too. Take the time to plan an intelligent, measured evolution to the cloud that does not throw out the proverbial baby with the bath water.

Bottom line: You need to control the costs, risks, and timing of every step to the cloud. Regardless of which functions you've identified as ready for the elasticity and velocity of the cloud, and which must remain in your legacy on-premises environment, be prepared to persuade your stakeholders of your vision, and demand that every vendor fit your needs, not vice versa.

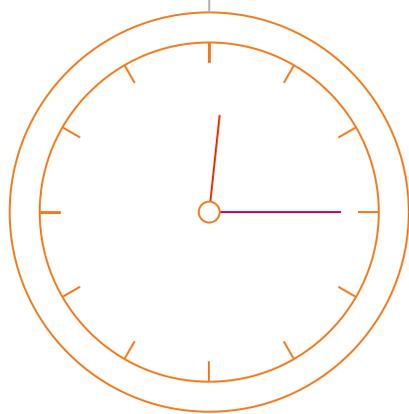
**Integration Case Study: Matrix Service**

Matrix Service Company, a cornerstone infrastructure provider to North America’s energy, power and industrial markets, had grown rapidly, both organically, and through acquisition. A price of success was an ever-increasing number of enterprise application data integrations to maintain, which taxed the abilities of a backlogged IT staff. In pursuit of a reliable, scalable way to consistently move data between applications in a timely manner, Matrix was able to quickly deploy quality data integrations that delivered maximum business value—while reducing the management burden.

“It only took a couple of hours [to] quickly solve our data integration issues,” says Julius Hughes, the company’s IT manager of application architecture.

Matrix is also using solutions that work hand-in-hand with their data integration to improve data access and security across its HR and ERP functions. This has allowed the company to improve payroll functions, empower and incentivize employees to deliver the best customer service, and continually integrate and update data across more than 30 enterprise applications. The result is faster processes with far less hand-coding, which accelerates the time to value of strategic acquisitions and other crucial functions.

Learn more here [here](#).



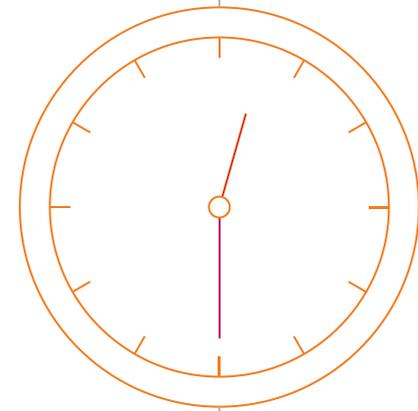


Conclusion

# Six Steps Forward

Integration is the backbone of any data-driven digital transformation. You don't drive business success by staring at your standard sales database rendered into a spreadsheet. It's the insights derived from achieving a holistic view of data from across the enterprise, and beyond, that brings efficiencies and groundbreaking opportunities. Integrating that data, while making it available for new processes, customer engagements and analytics opportunities, is key to driving a business forward.

Everything a business does is rooted in data. And every process around that data enables your enterprise to succeed, derive new and deeper insights, and achieve your business goals. As you manage the integration challenges of a hybrid and multicloud infrastructure, apply the six keys outlined here to help ensure your success in integrating your data, processes, and applications. Start by considering the vendor's proven ability to scale by gauging how many transactions they process per month, what security certifications they claim, and how comprehensive their platform and roadmap is to support both your current and future integration and data management needs.



# Further Reading

## **Solving Multicloud and Hybrid Data Management Challenges with iPaaS**

will help you understand why the next generation of iPaaS should be a cloud-based data management solution that:

- Supports advanced integration needs
- Delivers business data at the right time, to the right user
- Automates complex processes
- Integrates your data and applications across customers, partners, and employees

Informatica's approach to the logical evolution of iPaaS prepares customers for new data streams, new integration patterns, and new user types. Find out what the next generation of iPaaS can do, from cloud-based metadata management to improved self-service for business users, and lead your enterprise to more intelligent data insights and stronger results.

[READ MORE](#)

# Sources

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2. Vodafone, "2016 Global Vodafone Survey,"  
February 8, 2016
3. Deloitte, "2018 Global Human Capital Trends,"  
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# About Informatica

Digital transformation changes expectations: better service, faster delivery, with less cost. Businesses must transform to stay relevant and data holds the answers.

As the world's leader in Enterprise Cloud Data Management, we're prepared to help you intelligently lead—in any sector, category or niche. Informatica provides you with the foresight to become more agile, realize new growth opportunities or create new inventions. With 100 percent focus on everything data, we offer the versatility needed to succeed.

We invite you to explore all that Informatica has to offer—and unleash the power of data to drive your next intelligent disruption.

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