Executive Summary

For tens of thousands of companies the importance of Salesforce.com ("Salesforce") to their business has grown from a standalone app for salespeople to being an essential front office platform that touches every customer interaction. The expanding footprint of Salesforce, however, causes a spiraling increase in data complexity. The data complexity problem is due to many reasons, from the accumulation of data errors introduced by users over time, to data customization, from adding other cloud apps requiring data integration with Salesforce, to business model changes such as mergers or entering new geographical markets.

While companies wrestle with data complexity, a related opportunity exists to tap into the growing set of Salesforce data to better and more proactively relate to customers. Today, world-class companies use customer relationship management apps to interact directly with customers, and do so in a real-time, highly automated, and digital context. To make the data complexity challenge and digital interaction opportunity more daunting, a variety of new data sources and points of consumption, such as mobile, social, and analytics are now part of the Salesforce equation.

Turning Salesforce and other cloud application related data complexity into customer opportunity requires expertise, commitment, and a comprehensive set of integration tools. The companies that best succeed in converting Salesforce data complexity into opportunity use seven fundamental cloud integration technologies.

1. ***Data Quality, Lifecycle, and Governance***: No matter what your company does with Salesforce, the data better be accurate, throughout its life span, and its use should reflect your company's policies.

2. ***Integration Three Ways***: Data and business process are inextricably bound, and in the cloud era amalgamations of data and process are offered and managed as "services." Companies need tools for all three – data integration, process integration, and service integration – in both real-time and batch scenarios.

3. ***Salesforce to Ground***: Most companies begin by migrating existing sales data (e.g. from Siebel) to Salesforce, and by integrating Salesforce cloud apps to on-premise apps such as order management.

4. ***Salesforce to Cloud***: Companies that adopt Salesforce are predisposed to using Software-as-a-Service ("SaaS") apps, and thus often find themselves integrating Salesforce to other cloud apps.

5. ***Salesforce to Cloud to Ground***: As Salesforce becomes more integral to a company, Salesforce-related processes and data spreads over multiple lines of business and applications, both on-premise and in the cloud, requiring multi-point integration, often in a hybrid IT environment.

6. ***Social and Mobile:*** While not technically "business apps" the ability to wrap social and mobile processes and data in and around Salesforce are now essential ingredients in customer interactions.

7. ***Integration Platform-as-a-Service (iPaaS***): The work associated with the first six steps reaches its ROI fruition with iPaaS, which enables the building of "integrative applications" by tapping into your well-managed data and process assets.

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Though the market swarms with cloud integration solutions, Informatica, the world's largest independent integration software vendor, offers the full breadth of the seven technologies needed for success with Salesforce in its Informatica Cloud Platform. From Salesforce-to-on-premise and cloud connectors, to connector and template SDKs for building custom integration, from the market leading cloud integration service that processes over 60 billion transactions per month, to a full set of data management and process integration capabilities, the Informatica Cloud Platform's breadth and depth help it stand apart as an integration solution provider in general, and for Salesforce-infused companies in particular.

Salesforce Data Reaches Critical Mass for Your Company

When founded in 1999, few people, with the notable exceptions of the founders and original investors, suspected what a juggernaut Salesforce.com ("Salesforce") would become in Customer Relationship Management ("CRM") applications. Fewer people anticipated how Salesforce would catalyze the overall Software-as-a-Service ("SaaS") cloud application movement, and how Salesforce would also spawn a massive data complexity challenge inside of thousands of companies.

As Salesforce celebrates its 15th anniversary in early 2014, the vendor has passed the $4 billion mark in annual revenues, and its solutions are essential business ingredients for over 100,000 companies. Today, Salesforce has approximately 12,000 employees, operates the largest vendor-centric trade show in the IT industry – Dreamforce – with about 140,000 attendees at the 2013 event, has 30 acquisitions under its belt, and offers a far wider application and platform portfolio than when it rolled out its first sales app in 2000.

Ironically perhaps, the initial appeal of Salesforce as a simple to deploy and use Web-only sales automation app has been replaced by complexity. Given the expansion of the feature sets of its flagship apps, plus the evolution of its cloud platform now known as Salesforce 1, plus all the acquisitions, and hundreds of third-party applications available on the Salesforce-operated AppExchange marketplace, using Salesforce is no longer just a click away for most organizations. The good news is Salesforce and its ecosystem have more to offer, but the growing challenge concerns keeping all that functionality and data running in good condition.

Much of Salesforce's adoption over the past several years has been by larger companies, including multi-nationals. Thus today Salesforce operates in more languages, is used in more countries, operates under a wider set of rules, regulations, and policies, and integrates more deeply into businesses than a decade ago. At the same time that Salesforce has evolved, the world has seen the rise of Smartphones, social computing, and big data analytics. Salesforce has embraced those compelling technologies, but those technologies add to the complexity.

For many companies, Salesforce has grown into a critical component of daily business well beyond the salesperson keeping track of pipeline, contacts, and meetings. Ensuring Salesforce operates optimally has a direct effect not just on line of business employees, but also on executives, partners and most importantly customers. Companies should focus first on managing the underlying data to enjoy the benefits of their expanded use of Salesforce.

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Why Data Complexity Grows in Salesforce

Even the most controlled Salesforce implementation introduces some level of data errors. As depicted in Figure 1, over the course of normal use users inadvertently spawn more errors and duplicate data. Organizations often amend the data model, sometimes several times, to support the unique and changing requirements of the company. Many companies adopt other Salesforce apps, take advantage of new or expanded feature sets, or start using other SaaS apps, all of which requires further morphing of Salesforce data. Larger organizations inexorably need to integrate Salesforce with ERP, and often

the largest organizations use more than one ERP solution and/or version. Even more dramatic data complexity is introduced with business model changes, such as with mergers, and new market entries

Figure 1, in fact, just scratches the surface because, in truth, many of these "events" are not singular, but are repeated and in parallel with one-another. Suffice it to say that certainly in larger organizations after several years of Salesforce use, the data complexity situation has become a hurdle to operating effectively.
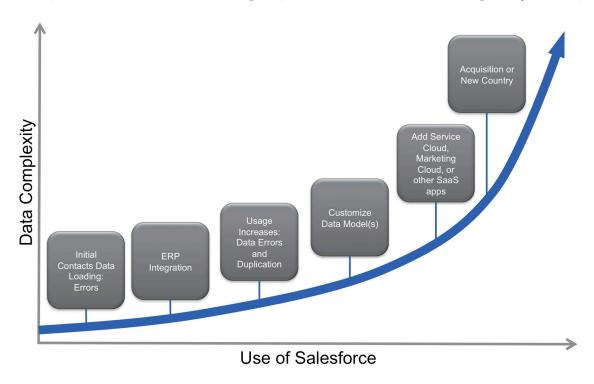

Figure 1: Data Complexity Grows as Salesforce Usage Matures
Source: Enterprise Management Associates, 2014

CRM Shifts from Passive to Active

Even though the eventual data complexity associated with Salesforce usage over time presents an on-going challenge, because of new trends in CRM, the data complexity issue represents just the tip of the iceberg. In the early days of Salesforce, CRM was used primarily as a tracking mechanism that enabled the sales teams to better manage their own activities, plus garner some basic insight about customers. Fifteen years ago, "marketing automation" was an oxymoron. Today, however, CRM apps have shifted from a passive to active role, driving customer experience and engagement because of:

- **Real-time Sentiment**: Understanding customer sentiment and buying preference no longer involves guesswork based on old, questionable data. Companies that are able to capture the right data, perform appropriate sentiment analysis, and turn the information into more relevant offers and ads are winning in the marketplace. While companies have long tapped into customer service and sales engagement logs to ascertain customer preferences, social media has forever changed the nature of buyer influence and sentiment analysis. Companies not including Web/cloud based data sources for CRM purposes are at a competitive disadvantage.

- **Mobile Reach**: Both sentiment capture, and offers and ads, today follow people around wherever they go on their smartphones.

- **Everyday Analytics**: In 2000, the number of companies using predictive analytics to help guide their customer engagement were few and far between. Now, several years into the "big data" era, advanced analytics applied in the context of CRM has become the norm.

The raw materials for active CRM are high volumes of diverse data, arriving at various rates of speed, preferably valid data, and data streamlined to serve multiple purposes. Much of this data originates from or is dispersed back into cloud apps. The data complexity creep that makes using Salesforce less effective becomes magnified when companies need to make split-second customer visible decisions.

Cloud, NoSQL, Big Data, and More Cloud

The last layer of data complexity Salesforce customers deal with today, paradoxically, is due to the popularity of the cloud, and some other newer technologies such as NoSQL databases and big data. The quantity of data integration endpoints has exploded because of the cloud. In the earliest days of Salesforce, there were a relatively limited number of applications and databases with which to integrate data, with the most usual suspects being on-premise ERP and CRM providers like Siebel, Oracle, SAP, and Pivotal. Today, the cloud is littered with SaaS applications, including those from the longstanding on-premise leaders. Sharing relevant data across the nearly endless app endpoints, databases, and data management/big data platforms, many of which are cloud-based or hybrid on-premises and cloud-based, has become tantamount to business success.

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Figure 2 offers a simplified view of what CRM data integration might have looked like in 2000 when Salesforce first went live, versus what it might look like today. Notice in 2014 the relative preponderance of cloud-based apps (note that social media apps are also run in the cloud), and that some may run in a hybrid cloud mode (Hortonworks in the example). The data integration world around Salesforce has become far more heterogeneous, with no end in sight.
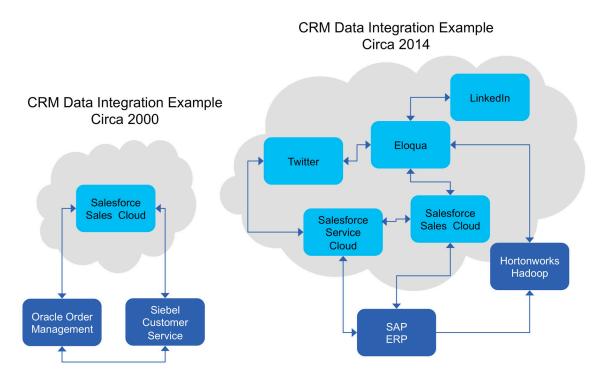

Figure 2: CRM Data Integration Comparison 2000 versus 2014
Source: Enterprise Management Associates, 2014

The Salient Seven: Integrating Salesforce Data for the Cloud

The question then is what should your organization do to address multi-faceted data complexity issues associated with Salesforce applications, particularly in a cloud context? There are seven rules of thumb, best practices and technologies that should enable your organization to move from defense to offense in terms of integrating and applying Salesforce data.

Before delving into the salient seven best practices and related technologies to best wrestle with Salesforce data, the first question your organization should address is, "What kind of integration facility will I need?" in order to deal with not just Salesforce, but the overall impact of social, mobile, analytics, and cloud, with Salesforce at the center?

- **Cloud Integration for Cloud Integration**: The challenge with managing a strictly on-premise integration facility to deal with cloud IT assets like Salesforce is a matter of rate of change and scale. There is no doubt that the rate of change, given the amount of app and data heterogeneity, in today's world of integration is exceedingly faster than it was even five years ago. Not only do changes happen more rapidly, but the processing requirements exhibit far higher peaks and variations. The inference in both cases suggests that a cloud deployment model for your cloud integration is the optimal approach; a deployment that scales elastically to deal with workload variation, and a model that is updated on a near constant basis in terms of new connectors, templates, and transformations. For multi-nationals, a hybrid cloud integration design may best fit a sundry set of work sites that are a combination of legacy on-premise and cloud apps.

- **One Solution Wherever Possible**: Companies should avoid, wherever possible, introducing multiple integration solutions to deal with the likes of Salesforce and all its points and methods of integration. It does not make sense to have to "integrate the integration" particularly in a solution context where the goal is to *reduce* complexity. While some vendors excel at one or a few aspects of integration, few vendors do a good-to-excellent job of addressing the entire range of integration and related data management techniques required for successful Salesforce integration.

- **Role-based Development and Administration**: Who inside your organization will handle Salesforce integration? The answer is "many of you" and thus the optimal Salesforce integration solution offers tools that meet the roles and expertise levels of a wide range of personnel.

  Business analysts and SaaS administrators, for example, want to rollout simple Salesforce to other cloud app integration, and to specify business parameters that require little to no customization. Those same business analysts and administrators should be able to quickly model and deploy Salesforce-related business processes. Integration developers, however, need to dig down deeper into the code, and use more in-depth integration tools, dealing directly with multiple data sources, advanced transformations, service integration, and process automation. Administrators should possess their own user experience to ensure performance, and to effectively deal with exceptions and outages. App developers should be empowered to tap into all of the integration assets to create business optimized solutions – "integrative applications" if you will. In short, the Salesforce integration solution needs to offer a number of tools that were designed for the expertise at hand.

Given those three essential caveats, here are the salient seven techniques needed for successful Salesforce integration:

1. **Data Quality, Lifecycle, and Governance**: The starting and ending point for all cloud integration is data quality. The ability to map and transform data is just a start. More advanced features like data masking, tracking data lineage through business glossaries, applying Master Data Management (MDM), and being able to easily create representative but secure test data sets are all part of

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the data quality and lifecycle management equation. Tracking all of this activity, and being able to tap into cloud-based transactions and transformation for compliance, audit, and forensic purposes are also essential to organizations hoping to act as responsible data stewards of their company's respective clouds.

2. **Integration Three Ways**: Thus far the focus herein has been on cloud integration, but apps running in the cloud like Salesforce are part of business processes and workflow, simple and complex, often involving human intervention – the data just gets carried along. Rudimentary integration approaches, such as those done in the on-premises service oriented architecture (SOA) era with "plumbing oriented" enterprise service buses, no longer cut it. Your cloud integration platform needs to be data and process aware for every transaction. Also, in the lingo of the cloud, the notion of service integration has gained ascendancy. Historically data, business process, and service integration were too often treated as separate practices and solutions. In the more heterogeneous social, mobile, analytics, and cloud world in which Salesforce apps operate, it is essential to not just practice all three, but have all three interoperate and reflect one another.

3. **Salesforce to Ground**: Few organizations look before they leap into cloud and complex technological and transformational projects like big data. While it might seem obvious that integrating Salesforce to "ground" applications, meaning on-premise, is a requirement, the tricky part here is that what is on the ground keeps changing. First, many organizations are opting for SaaS versions of where there were previously on-premises apps – from the same vendor. Unfortunately the data model and related processes often change, and are optimized for cloud and mobile usage. Second, the "ground" apps continue to change. Finally, the security and performance requirements for traversing from cloud to on-premise and back again are more taxing than back in the days where all data and process sat behind your firewall.

   Therefore, customers should look for a healthy list of not-too-finely-grained connectors for "Salesforce to ground," but also look for security options, manageability, and a vendor that stays on top of the changes on the ground and in the cloud.

4. **Salesforce to Cloud**: Cloud-to-cloud integration certainly suggests the need for a long list of connectors for Salesforce to not just other SaaS apps, but cloud interoperability assets, such as RESTful APIs and some of the more popular NoSQL databases like MongoDB. Often overlooked in terms of Salesforce integration is the lack of native integration within the AppExchange itself. Customers expecting third-party AppExchange apps to connect seamlessly with Salesforce Service Cloud or Marketing Cloud or Sales Cloud may be sorely disappointed. Therefore, the cloud integration solution for Salesforce should include a full set of tools to model, map, build templates, and minimize the amount of code to deal with Salesforce-to-whatever cloud applications.

5. **Salesforce to Cloud to Ground:** Just as many organizations learned the hard way in the days of on-premise application integration that "A2A" (application-to-application) integration often did not suffice, the same holds true for Salesforce and the cloud, multiplied several times over. The notion here is that complex, multi-point integrations, in terms of business process, in terms of data, and in aggregate in terms of services, are on the increase. Interestingly, as soon as you introduce a third app or service into an integration mix, the mathematical chances for the customization seem to increase wildly. That means the need for simple-to-use tools that define, test, implement, and operate complex integrations are essential ingredients for Salesforce customers, particularly enterprise-class customers.

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6. **Social and Mobile**: Certainly connectors to social apps are required for Salesforce customers; social directly integrates into sales automation, marketing automation, and customer service. Mobile, however, is usually overlooked. For example, mobile data flows often take place under the control of the communications service provider. Special data cuts may be required for mobile. Care must be taken to not introduce latency and data inaccuracy in the mobile context because it may directly impact your customers, and thus your business.

7. **iPaaS for Business Optimization**: Here is where the market-leading organizations may indeed differentiate themselves: If organizations have gone through all the work to obtain a handle on data quality, have purchased and developed a wide set of connectors for Salesforce integration, have modeled the related business processes, and identified a set of services that envelop the flow and the data, why not creatively recombine all those assets? iPaaS, or "integration Platform-as-a-Service" solutions, precisely expose the assets of integration, and provide the business analyst, SaaS administrator, or particularly the app developer the means of productive recombination and cloud deployment.

Salesforce customers may grade themselves in one of perhaps five categories of sophistication when it comes to integration as exhibited in Figure 3. Note that the further your company ascends towards being able to use a complete, enterprise-class, data management iPaaS across its business and technical users and the many assets of integration, the better your company will need to be at the fundamentals of data quality, data lifecycle management, and governance.
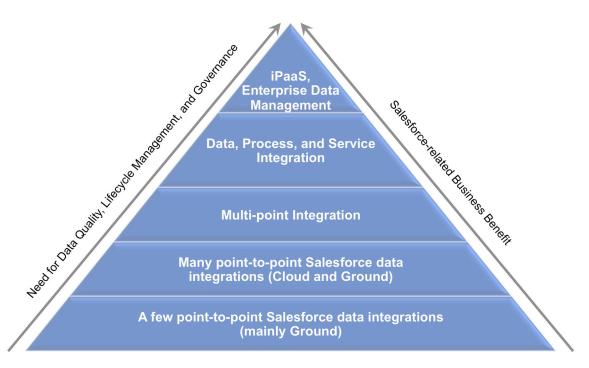

Figure 3: Where does your company stand in terms of Salesforce integration?
Source: Enterprise Management Associates, 2014

EMA Perspective

The trend of moving from passive to active CRM, from inwardly-focused transactional thinking to outward-thinking focusing on customer experience, is inescapable. The winners, whether you use Salesforce CRM or some other cloud CRM such as SAP or Oracle, will be those organizations that are best able to muster their data, processes, and services, and put them to active use engaging with customers.

Recommending a single Salesforce integration solution if at all possible, that includes a cloud-deployed solution providing elasticity, and that includes the appropriate developer, analyst, and administrator tools, is easier said than done. Add in the full breadth of fundamental data integration technologies and cloud connectors, add in process and service integration, and add in an iPaaS for API-based development, and there are few solutions choices. Then add in data quality, lifecycle management, and governance tools and Salesforce customers would be even more hard-pressed to find a single, cloud-based solution.

Today, the Informatica Cloud Platform stands out as an offering for dealing with Salesforce integration in particular, and cloud integration in general. In addition to its breadth of feature and function, there are a few characteristics of the Informatica Cloud Platform that make it of particular interest for Salesforce success:

- **Proven and Secure**: Informatica Cloud today processes over 60 billion transactions per month. There is no other single cloud integration facility with a similar track record. Informatica Cloud also supports every major industry security certification including SSAE 16, ISO-27001 and PCI compliance.

- **Buy and Use What You Need**: Informatica Cloud comes in several editions meant to meet customers exactly where they are in terms of their Salesforce integration needs. If you simply want to implement some point-to-point Salesforce-to-ground data integrations, Informatica Cloud offers an entry-level version. On the other extreme, the premium edition helps companies achieve real-time, multi-point, cloud-and-ground integration, including a hybrid deployment model. And there are options in-between.

- **Connectors, Templates, and SDKs**: Informatica offers a full set of pre-built connectors for point-to-point integrations, both cloud and ground, SDKs to build your own connectors, a marketplace for connectors from ISVs and other partners, and pre-built templates to support your process-centric integrations, processes, and mappings.

- **Development Flexibility**: Informatica Cloud offers a range of development options, from tools and a visual design canvas for developers with deep integration expertise, to simplified point-and-click wizards for business analysts. It also includes a sandbox environment for developers and QA personnel.

- **Quality, Governance, and Testing**: Informatica Cloud also includes the fundamental tools for data lifecycle management, such as sophisticated test data management – which speeds up developer and QA processes; data quality, for clean and validated data at every stage of deployment; and master data management for creating a single view across all your cloud-related data.

- **iPaaS and Data Management**: Finally, Informatica Cloud has entered into the API and Data Management fray with a comprehensive set of options to help companies build integrative apps and to support advanced initiatives like big data.

Customer-driven CRM is being accelerated by Cloud integration, and combined with API-based development, represents the state-of-the-art. Perhaps five years from now, however, it will represent the industry standard. For companies that have committed to Salesforce-based solutions, and want to stay out in front of the CRM crowd in their industry, a precise yet comprehensive approach to integration is called for. The Informatica Cloud Platform is an excellent solution for meeting the considerable set of requirements for companies that want to best realize the business benefits associated with Salesforce.