

Connect Cloud and On-premise Applications Using IBM WebSphere Cast Iron Integration



Redguides
for Business Leaders

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- Connect cloud and on-premise applications quickly and easily
- Use a "configure, not code" method of integration
- Deliver cloud integration with built-in connectivity and integration templates



Executive overview

To cut costs, drive productivity, and provide new capabilities quickly, companies are turning to cloud applications to meet their business needs. Cloud computing is a new consumption and delivery model. This new style of computing provides applications, data, and IT resources to users as services delivered over the network. In this case, the application is delivered as a service known as *software as a service (SaaS)*. Cloud applications can cut IT costs, by reducing the resources needed for cloud application deployment. These applications can also increase the productivity of business users by making applications available at the time of need. Cloud applications (from service providers) have a pricing structure that reduces budgetary issues, which can get in the way of procuring new applications.

As the success of cloud applications grows, what were once department-level solutions to reduce cost and increase the effectiveness of specific employee teams now face hurdles when these solutions must grow to support the wider enterprise. On a daily basis, users require access to various systems and applications that are critical to doing their job. These applications can include cloud applications and on-premise systems and applications. It is vital that these applications and systems are integrated and function seamlessly, providing the user with the latest information. Now many companies have a hybrid world of cloud and on-premise applications making integration critical.

Known for industry-leading application-integration solutions, IBM® has enhanced its solution portfolio with the acquisition of Cast Iron Systems™ and its award-winning connectivity product IBM WebSphere® Cast Iron® Cloud integration. (This product was previously known as *Cast Iron OmniConnect*.) With this new product, IBM can offer clients a complete cloud-application-integration platform. Unlike traditional choices that offer multiple products or on-demand tools that provide rudimentary on-premise application integration capabilities, WebSphere Cast Iron Cloud integration provides a single robust solution. This solution is designed from the ground up to deliver everything needed for cloud and on-premise application integration.

This IBM Redguide™ publication provides information about WebSphere Cast Iron Cloud integration, highlights its business value, and explains why it provides a complete solution to cloud and on-premise application integration. This guide is intended for executives, leaders, and architects who are looking for a quick and easy way to integrate cloud applications with their on-premise applications.

Application integration: The Achilles' heel of cloud computing

Companies that adopt cloud applications view application integration as the critical component to harmonize business processes across their hybrid application landscape. With integration, business users who use a cloud application can make the most of their productivity by having access to critical information that is unlocked from other systems and made available in real time. By maximizing user productivity, a company can achieve the most economic value of their investment.

Scenarios of cloud integration include the following examples:

- ▶ Data migration from existing systems to new cloud applications
- ▶ A 360-degree view of customer information between cloud customer relationship management (CRM) and on-premise enterprise resource planning (ERP) applications
- ▶ Order, invoice and payment visibility from ERP to cloud CRM applications
- ▶ Recruiting and employee data integration between cloud human capital management and back-office applications
- ▶ Opportunity integration between cloud marketing automation, collaboration platforms and e-commerce applications
- ▶ Connection of *private clouds* with home-grown applications and business partner solutions

Private clouds: *Private clouds* are custom cloud applications that companies build themselves to meet their distinct needs. Such applications are typically built by using technologies, such as web services and virtualization, that offer tremendous economies of scale to large IT departments. You can compare these to *public clouds*, which are owned and managed by a service provider that delivers an agreed-to set of application, software, or infrastructure services on a pay-per-use basis.

Because cloud applications offer similar benefits to all customers, any advantages gained at one company are just as easily available to its competitors. Cloud applications by themselves provide little differentiation unless they are integrated with a company's back-end applications to streamline business processes that are core to their operations. Retaining this differentiation and making the enormous quantity of corporate data available to the newer, more cost-effective cloud systems brings the issue of application integration to the forefront. Application integration has become the loyalty application for cloud providers. The more integrated they are with the rest of their customers' enterprise applications, the more valuable they are to their customers.

Despite this critical need, application integration continues to be the Achilles' heel for cloud adoption. Why has cloud application integration been so challenging? The answer lies in the fact that traditional choices have been incomplete.

Traditional choices for cloud integration

Traditionally, companies have had the following choices for solving cloud integration problems:

- ▶ Use on-demand integration tools.

On-demand integration tools have the required functionality to complete simple cloud-to-cloud integration scenarios. However, they lack the sophisticated capability that is required to integrate with customized on-premise applications and to harmonize integration processes across this hybrid application landscape. As a result, they have mainly been adopted by small companies that need low-cost integration options.

- ▶ Implement complex on-premise software platforms (traditional middleware solutions).

The on-premise middleware platforms evolved to meet integration needs in large enterprises. They provide sophisticated functionality to solve business process management (BPM); extract, transform, and load (ETL); and Enterprise Application Integration (EAI) problems. But this rich functionality makes these platforms expensive to procure, install, deploy and maintain for cloud integration projects. They often lack integrated support for the specific cloud applications that companies might be adopting.

- ▶ Write custom code.

Because the other options did not fit well, many companies have opted to develop custom code for integration. Although custom code provides an immediate fix at a seemingly lower cost, companies quickly realize that maintaining custom code is a labor-intensive and time-consuming process. They also realize that the “hidden costs” go well beyond the initial coding. Custom code also requires specialized skills that most IT organizations lack or cannot obtain easily. Finally, custom code requires up-front investments in time and resources that delay the benefits of using cloud applications.

Solving integration problems with any of these traditional approaches produces results that diminish the benefits that are expected when companies choose cloud applications. These traditional integration solutions substantially undermine the value of choosing cloud application and frustrate users who are expecting quick results. The poor fit between traditional integration approaches and the requirements of cloud computing has created the need for a new type of integration platform.

WebSphere Cast Iron Cloud integration: The complete solution

In 2010, IBM acquired Cast Iron Systems, the leading SaaS and cloud application integration provider. Figure 1 shows WebSphere Cast Iron Cloud integration connecting with a sampling of various cloud application and on-premise application providers.

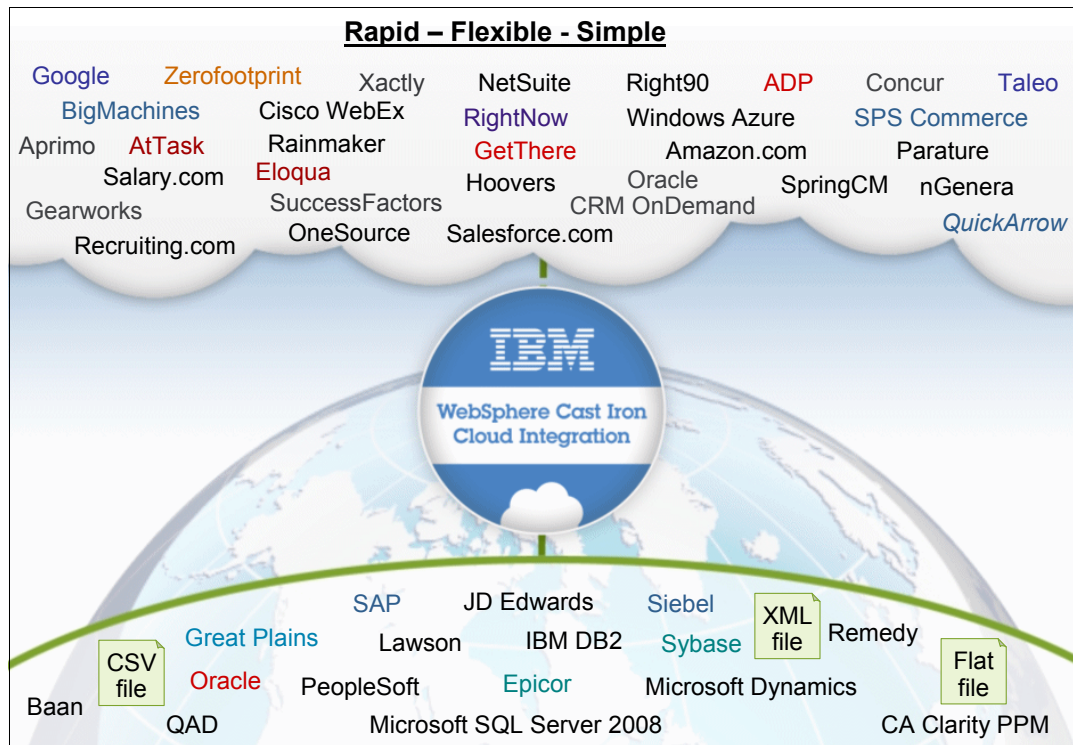


Figure 1 WebSphere Cast Iron Cloud integration: The complete solution

By using WebSphere Cast Iron Cloud integration, IBM clients can expect fast and flexible SaaS and cloud application integration in the space of days. They can also achieve lower cost and higher return on investment in cloud and SaaS models. Now IBM offers clients a complete cloud application integration platform. Unlike the traditional choices, WebSphere Cast Iron Cloud integration provides a single robust solution. This solution is designed from the ground up to deliver everything needed for cloud and on-premise application integration.

WebSphere Cast Iron Cloud integration delivers the following sets of capabilities:

- ▶ Complete deployment flexibility
- ▶ Complete cloud integration scenarios
- ▶ Complete connectivity
- ▶ Complete reusability

Each set of capabilities is explained in the sections that follow.

Complete deployment flexibility

WebSphere Cast Iron Cloud integration is a single product that offers the following form factors for deployment:

IBM WebSphere Cast Iron Live

A multitenant cloud service

IBM WebSphere DataPower® Cast Iron Appliance XH40

A physical appliance built on market-leading IBM technology that can be installed and managed within a local data center

IBM WebSphere Cast Iron Hypervisor Edition

A virtual appliance that can be installed on a customer's existing servers by using virtualization technology

All three deployment options (illustrated in Figure 2) provide the same user experience for developing and managing the integrations. Users have the unmatched flexibility of seamlessly transitioning between these options. The advantage to cloud customers is the ability to choose the right solution for their needs, rather than being limited by vendor offerings that often take a “one-size-fits-all approach.”

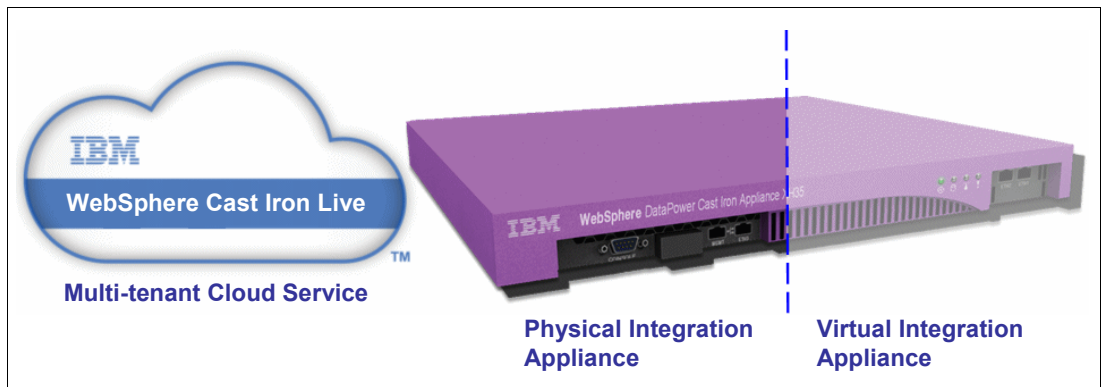


Figure 2 The three deployment options for WebSphere Cast Iron Cloud integration

Complete cloud integration scenarios

WebSphere Cast Iron Cloud integration provides the following three complete integration products in one:

- ▶ Cloud data migration

By using the WebSphere Cast Iron Cloud integration data handling, data cleansing and data migration capabilities, companies accelerate and expedite the adoption of SaaS and cloud applications by their user communities. By using this approach to data integration, companies can cleanse, enrich and migrate data from existing applications to cloud applications in real time.

- ▶ Cloud data synchronization

WebSphere Cast Iron Cloud integration provides connectivity, workflow and transformation features, enabling the company to coordinate or orchestrate integration processes across multiple applications in real time. Now, SaaS and cloud users can immediately view data that is hidden in applications, minimize any duplicate entries and maximize their own decision making and productivity.

- ▶ Cloud user interface (UI) mashups

Often information from disparate sources must be brought together and displayed within the native user interface of a single application. WebSphere Cast Iron Cloud integration can mash up that data to present a single unified view, without placing the data from one application into another.

Complete connectivity

WebSphere Cast Iron Cloud integration comes with built-in connectivity to hundreds of clouds, packaged and proprietary on-premise applications, including ERP, CRM, databases, web services and flat files. It is self-contained and includes everything needed to complete integrations in one place. This progressive approach to integration makes no distinction between local and remote applications because they establish connectivity to the end points by using native application protocols. The advantage is that no additional adapters are required, and there is nothing to install or change at the end points.

Complete reusability

WebSphere Cast Iron Cloud integration includes hundreds of reusable Template Integration Processes (TIPs) that are searchable with a single click in an online library. This online library contains templates for all of the most common cloud integration scenarios. These templates provide a question-and-answer-based wizard that walks users through a common integration scenario. For example, a TIP might request all the information needed to transform an opportunity in a CRM system to an order in an ERP system. Through this simplified interface, IBM customers and partners can create their own wizard-driven reusable templates with the point-and-click TIP Development Kit and make them instantly available to the entire Cast Iron user community.

Figure 3 shows an example TIP.

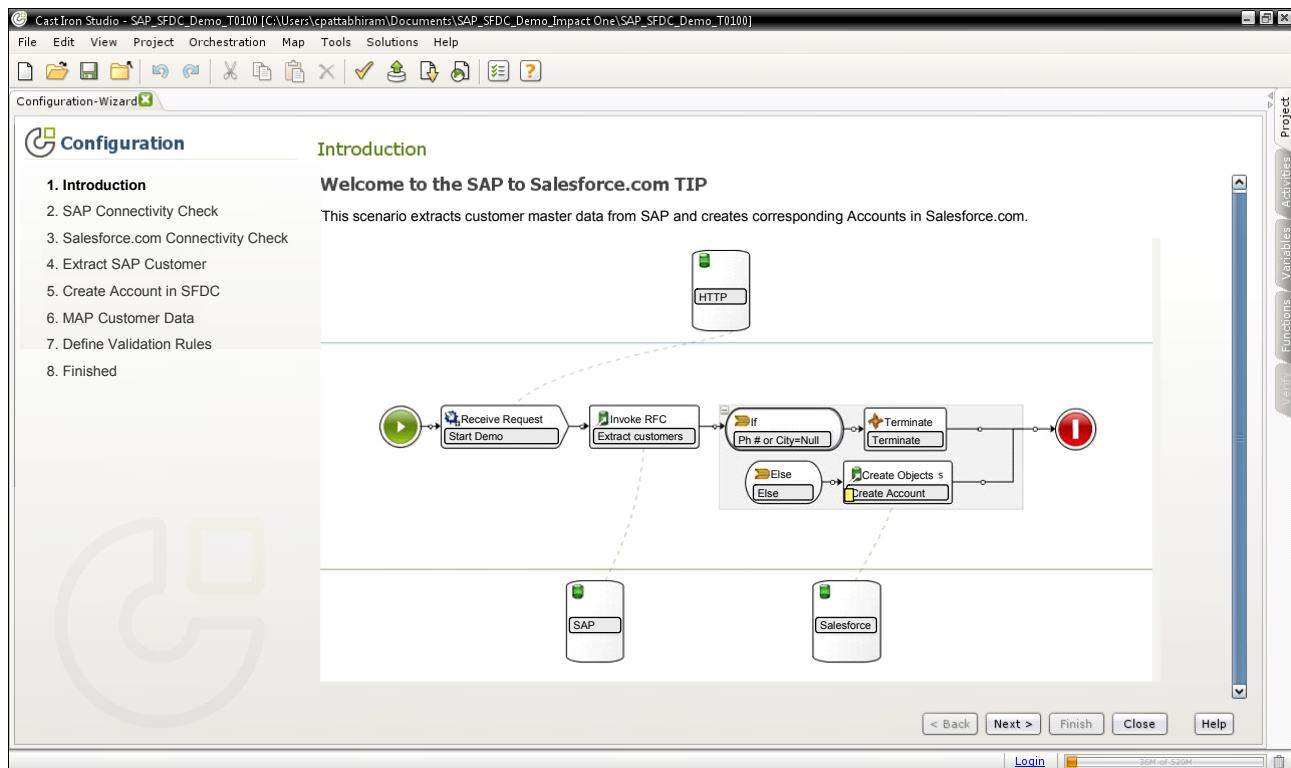


Figure 3 Example TIP

How this solution adds business value

WebSphere Cast Iron Cloud integration adds value to your business in various ways:

- ▶ Integration in days

The Cast Iron TIP library enables companies to integrate in days, instead of weeks or months. This approach aligns with the deployment timelines of cloud applications and enables users to expedite their “go-live” timeframes.

- ▶ Significant cost savings

The WebSphere Cast Iron Cloud integration “configuration, not coding” design has helped numerous companies slash integration costs compared to traditional approaches. In addition, companies have reduced ERP licensing costs by eliminating the need for cloud users to log in to back-office applications. Also because of the term licensing pricing options that are available, companies have slashed their up-front capital expenditure costs.

- ▶ Enhanced IT innovation

WebSphere Cast Iron Cloud integration is delivered through either an on-premise appliance or the cloud with nothing else for IT to add or buy. Both approaches do not require complex coordination or specialized IT skills for deployment. Because of the simplicity of the solution, IT executives can now reallocate senior resources to more innovation-oriented projects.

► Power of the ecosystem

IBM is a strategic integration partner for many of the cloud providers in the world such as Salesforce.com, Google, Taleo, Oracle CRM, Cisco Webex, ADP and Success Factors. As a result, IBM works with the respective product teams to be current on any API or functionality changes. Customers no longer have to spend months updating their custom coded integrations with any new API changes.

Augmenting your existing enterprise service bus

WebSphere Cast Iron Cloud integration is built from the ground up for cloud integration. It does not solve complex integration scenarios that are enabled by BPM, ETL and enterprise service bus (ESB) solutions. However, WebSphere Cast Iron Cloud integration is used to augment such solutions with targeted cloud integration capabilities.

For example, several large companies use ESBs as their integration backbone coupled with WebSphere Cast Iron Cloud integration to integrate specific cloud applications. Together they enable a range of cloud and on-premise integration scenarios. In this context, the ESB can be considered as the enterprise integration highway, and WebSphere Cast Iron Cloud integration can be considered as the solution that integrates the cloud applications to the ESB.

Example customer scenarios

This section provides two customer scenarios that demonstrate the use of WebSphere Cast Iron Cloud integration.

Example 1: A large distributor of pharmaceutical products

A large pharmaceutical products distributor recently replaced various traditional systems with Salesforce.com as their CRM application for their call center service representatives (CSRs). The challenge was to empower all their CSRs with real-time information in Salesforce.com, enabling them to deliver a superior customer experience. This solution provides the CSRs with information about accounts payable and receivable, invoices, credit checks, order details and other data. This information existed in multiple back-office applications that had been consolidated by using a data warehouse. Historically, the CSRs spent hours collecting this information by accessing multiple applications, which resulted in a significant loss of sales productivity.

The IT team's main challenge was to reduce dependency on higher-cost resources for integration projects and shift higher skills to more strategic or innovation initiatives. Traditionally the company relied on custom code to solve point-to-point integration problems, but found the approach to be non-scalable as their needs grew. The IT team conducted a comprehensive evaluation process and rejected proprietary on-premise ETL tools because of the coding complexity.

The IT team deployed WebSphere Cast Iron Cloud integration to connect their SQL-based home-grown data warehouse with Salesforce.com in real time (Figure 4). This solution was used to create a 360-degree view of customers in real time. Account, credit and sales information is now sent to Salesforce.com from the data warehouse. Orders and quotes that are created in their e-commerce system are sent in real time to the data warehouse.

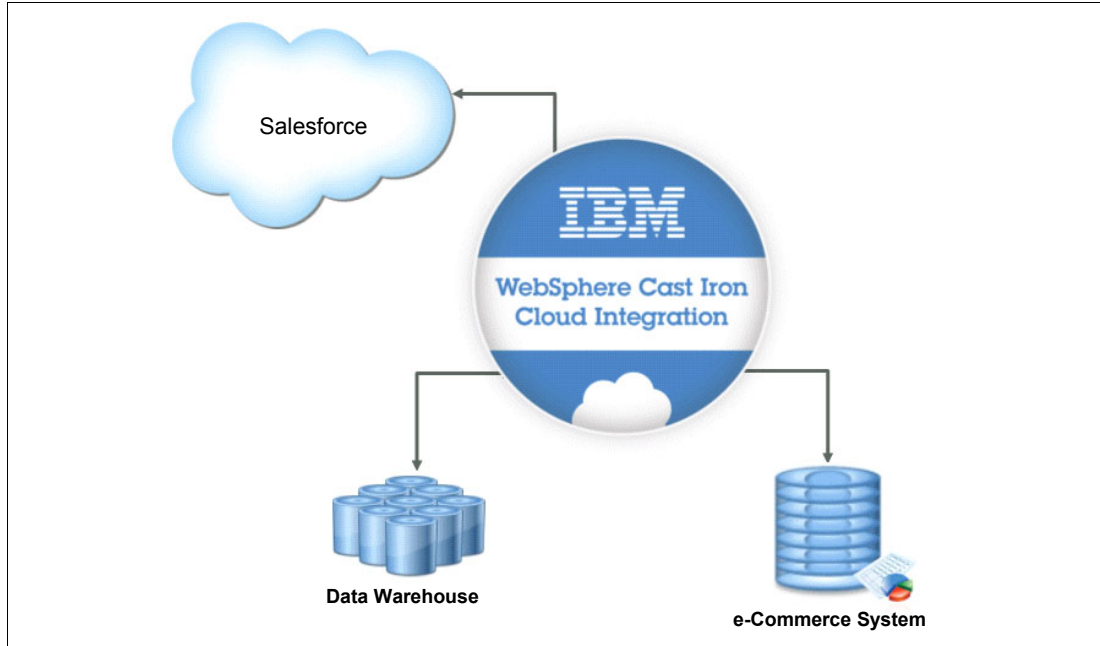


Figure 4 Example 1: Pharmaceutical products distributor solution

The entire integration solution was delivered in just ten days. The company has reduced its development resources resulting in an annual cost savings. In addition, the highly skilled resources are now assigned to innovation-oriented projects instead of integration projects. By providing this single view of customers in Salesforce.com, the company has significantly improved CSR productivity.

Example 2: A large manufacturer of consumer devices

A large manufacturer of consumer devices has a wide range of cloud and on-premise applications including solutions from SAP, JD Edwards and various existing applications. They chose Salesforce.com as their CRM platform with the goal of delivering a superior customer experience.

Their diverse and disparate systems resulted in silos of information that forced their sales and technical service teams to access multiple systems for customer complaint data. They wanted to use Salesforce.com as the single application that provided a seamless, 360-degree view of their customers and maximized the productivity of their sales and technical service teams.

After rejecting traditional integration methods, they chose WebSphere Cast Iron Cloud integration (Figure 5) and its “configuration, not coding” approach for real-time, bidirectional integration. By using WebSphere Cast Iron Cloud integration, they performed integration between Salesforce.com and the on-premise systems including SAP, JD Edwards and flat files. Now the technical service teams no longer have to log in and manually access the information in back-office ERP systems. The first SAP-to-Salesforce.com project was completed in only 10 days.

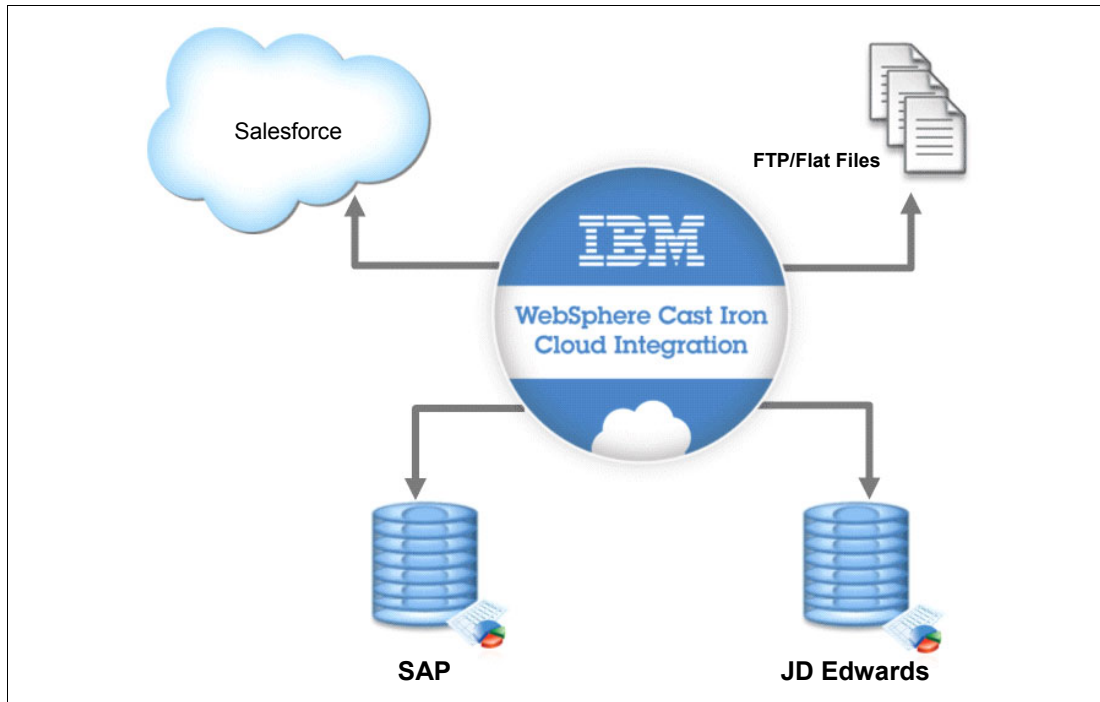


Figure 5 Example 2: Consumer device manufacturer solution

The company has made a sizable savings each year, eliminating ERP licenses and minimizing integration implementation costs. By providing real-time client case data to their employees, they have realized additional savings in productivity improvements.

Summary

Cloud applications offer tremendous benefits including rapid implementations, ease-of-use, low IT requirements, subscription pricing and ease of change. As their adoption rate increases, the need to integrate between cloud applications and back-end applications is critical to rapidly realize the full benefits of the solution.

It is clear that IT environments in the future will include a mix of cloud and on-premise applications. Different companies will select various combinations of these systems to maintain true differentiation and be responsive to the needs of the business.

To realize the full benefit of cloud applications, integration must be simple yet complete. Companies need a solution that provides the simplicity to implement projects in days, not weeks or months. At the same time, the solution needs the sophistication required to harmonize business processes across multiple cloud and on-premise applications. The integration solution must run anywhere, connect applications deployed anywhere, be managed from anywhere and require limited specialist integration skills or IT infrastructure. These solutions must be easily configurable, flexible and scalable, meaning no coding. Also,

the integration solution must provide a reusable framework for new customers to use the best practices of earlier implementations and further reduce their integration costs.

Fortunately, WebSphere Cast Iron Cloud integration provides these benefits today. By taking advantage of this platform, companies can obtain the full benefit of cloud applications in days.

For more details about WebSphere Cast Iron Cloud integration, see the WebSphere Cast Iron Cloud Integration page at:

<http://www.ibm.com/software/integration/cast-iron-cloud-integration/>

The team who wrote this guide

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