Connectivity in context: Deliver application integration in days

A rapid, flexible and simple approach to connect your enterprise and cloud applications
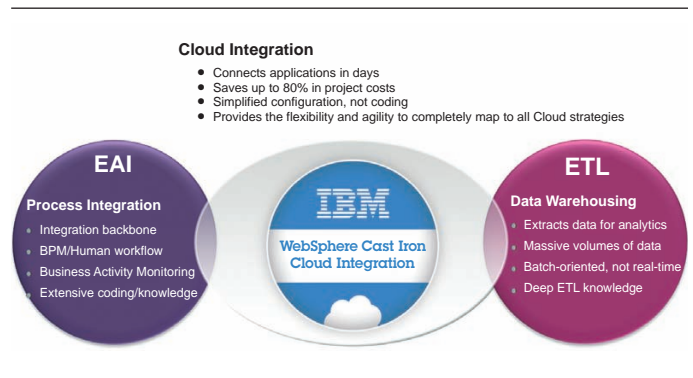
Introduction

In today's economy, cutting costs while increasing productivity is critical to achieving a competitive advantage and ultimately success. As a result, companies are turning to Software as a Service (SaaS) and cloud-based applications to decrease costs and drive productivity. In order to realize their full value, these new cloud-based applications need to be connected in order to share business-critical data in real time wherever it resides; in other SaaS applications, on-premise systems or any other data store.

Recent analyst studies by Gartner, Saugatuck Technology and IDC predict the explosive growth of SaaS at a 27 percent compound annual growth rate with revenues exceeding $55.5 billion by 2014. And it's no surprise that according to Forrester and Saugatuck Technology, integration issues are among the top concerns regarding SaaS adoption.

As a result, many software-based application integration products have emerged to address the challenges today's organizations are facing. In many cases, these solutions are repackaged versions of the same offerings from these vendors—based on an older architecture which predates the advent of SaaS technology. Not only have these options consistently proven to be too complex for companies that do not have the in-house resources to learn and implement such middleware platforms, but they can also equate to a further drain in productivity, given the fact that they often require two or more data sources to maintain in order address the singular challenge of connecting a SaaS and on premise application. This often prompts organizations to evaluate the option of home-grown, custom-coded alternatives which solve integration problems in the short-term but lead to higher costs over time due to the lack of scalability and reusability.

Cloud Integration
- Connects applications in days
- Saves up to 80% in project costs
- Simplified configuration, not coding
- Provides the flexibility and agility to completely map to all Cloud strategies

EAI

Process Integration
- Integration backbone
- BPM/Human workflow
- Business Activity Monitoring
- Extensive coding/knowledge

IBM
WebSphere Cast Iron
Cloud Integration

ETL

Data Warehousing
- Extracts data for analytics
- Massive volumes of data
- Batch-oriented, not real-time
- Deep ETL knowledge

IT shops today are under constant pressure to respond faster and smarter to address the business-pain their organizations are facing through application integration while simultaneously reducing their spending on connectivity projects. It comes down to this crucial concept in application integration: connectivity in context, which combines the speed and agility from best-of-breed technology with the emphasis on working smarter—leveraging flexibility while always focusing on resolving line of business pain.

Categories of integration

The first step in the connectivity in context model is understanding how to deliver successful integration projects faster, smarter and at a reduced cost by examining the types of business challenges faced by your organization. The reality is there are many types of business challenges which are pervasive across industries, geographies and organizational size, such as:

✓	Providing the sales team with a 360° view of their customers
✓	Streamlining the sales cycle by reducing the approval time for quotes and discounts as well as eliminating multiple/manual order and billing data entry
✓	Accessing data from business partners in real-time to eliminate bottlenecks due to manual communications
✓	Ensuring the integrity and timelines of mergers and acquisitions by consolidating data, documents, SOPs and business processes

These are just a few examples of business challenges which require complex business logic, involve extensive human-machine interaction, and need native connectivity to applications in order to leverage the available API resources. For example, a credit-approval process involves multiple steps of approval and human interaction, requires complicated reasoning to determine the creditworthiness of a customer, and typically needs information from multiple systems to determine an answer. This represents the clear need to provide a consolidated view of key performance indicators synthesized from different applications.

Enterprise application integration (EAI) technologies effectively solve these connectivity problems with a comprehensive suite of complex software modules. A complete EAI solution involves many moving parts including hardware, operating systems, databases, sophisticated stacks of integration software, adapters installed at endpoints, monitoring software, and the list goes on.

Data warehousing (DW) projects are similarly complex and involve the movement of huge volumes of business information from enterprise systems to a central repository. Business users perform detailed analytics and run ad hoc queries against this central repository using frontend reporting tools. Data warehousing projects are batch oriented and often involve millions of transactions on a daily basis. For example, a company wanting to perform detailed analytics on its sales history for the past year uses data warehousing solutions to provide this information. Extract, transform and load (ETL) vendors have successfully provided very specific batch-oriented tools to solve these types of problems.

However, the vast majority of business challenges that can be resolved through application integration have the possibility of being executed rapidly and simply. Although no integration is *simple*, most connectivity projects can be broken down into a phased approach where the objective is simply to connect two, or just a few applications to begin with. This size of project addresses the need to synchronize and integrate business-critical information—such as customers, suppliers, items, inventory and orders—in a real-time manner across business applications and partners. Application integration creates a consistent view of information across the enterprise and enables companies to make fact-based decisions and operate efficiently.

Without application integration, organizations create islands of siloed information that lead to operating inefficiencies and customer dissatisfaction. For example, a manufacturing company that can integrate their suppliers, R&D, shipping, sales and

billing systems as well as their partner ecosystem can streamline and accelerate their time to market for their product-line—achieving a substantial competitive advantage over other manufacturers who continue to rely on manual processes and communication. Additionally, since companies need to synchronize and integrate their data across applications before streamlining their business process (using process integration) or reporting on it (using data warehousing), application integration is a necessary first step for these more complex projects. The need for a single, real-time view of core business information such as customers, items, inventory and pricing has expanded the need for application integration today. Such projects are more numerous than process integration or data warehousing projects, have simpler requirements, and always require rapid implementations.

Recognizing and avoiding overkill

So how are companies solving the growing need for application integration and why do solutions based on older architecture equate to longer project times and higher costs? The answer is that some companies have tried to use complex EAI and ETL platforms for solving simpler point-to-point application integration problems, specifically with SaaS applications. These solutions have proven to be overkill for these reasons:

- Companies have incurred very high implementation and operational costs due to the complexity of these platforms, which involve many moving parts.
- Implementing integrations with these platforms can require many months of effort with specialized IT skill sets that may not be easily available in any organization.

As an alternative to these complex platforms, many companies have analyzed the option to piece together their own custom-built solutions using Java, batch, SQL, VB scripts and the like. These homegrown solutions may be adequate in the short-term but are a poor long-term answer for these reasons:

- They are not flexible enough to meet future demands because they have been built as a one-off solution for a specific need. Upgrades and changes to custom code require many man-hours of effort by their original author, leading to long lead times for changes and higher costs.
- Custom code solutions are not typically built in a way that feeds the existing management and maintenance infrastructure that is so critical after deployment. For example, custom code neither provides visibility into transactions nor alerts on data and connectivity errors.

The net result is that software-based application integration solutions present a level of backend expense and complexity—especially over time. Spending a disproportionate amount of valuable IT funds, resources and time on projects which have the potential to be quick and successful with a low TCO and high ROI equate to one word; overkill—something no IT manager wants to be responsible for or associated with.

The quest for simplicity

The only way to truly accelerate application integration projects is to reduce the complexity of the solutions. Just tweaking existing software-based solutions won't reduce complexity since simplicity has to be designed into the solution. Instead, a fresh approach is needed to simplify application integration and thereby deliver dramatic cost and time savings. A model for this would be the multitude of available SaaS applications.

Traditional packaged software comes equipped with a myriad of complex features and functions as they are built to solve the problems of large Fortune 500 organizations. This complexity not only drives up the upfront implementation cost of the software but also dramatically impacts the total cost of managing this software over time. SaaS applications, on the other hand, take the approach that the majority of organizations do not need the complexity provided by traditional packaged software and will never use it; as a result, successful SaaS application providers build their applications from the "ground up" to provide customers with *what they need and only what they need* to simplify the user experience. The net result of this simplicity is a twofold—improvement in customer adoption, due to a simpler user experience, as well as dramatic savings in implementation time and costs.

IBM has adopted the same design philosophy for creating WebSphere® Cast Iron® Cloud integration. Rather than provide all the complex features of a traditional EAI or ETL solution, IBM has built this integration product from the "ground-up" to provide everything needed to rapidly deliver completed, successful and repeatable application integration projects at a dramatically lower cost.

What Is WebSphere Cast Iron Cloud integration?

WebSphere Cast Iron Cloud integration is a rapid, flexible and simple approach to connecting your SaaS and on-premise applications. This product simplifies integration by providing a "configuration, not coding" approach that doesn't require experts or knowledge tied to a specific application vendor platform. For example, many companies need real-time connectivity between their CRM and ERP systems, regardless of where those
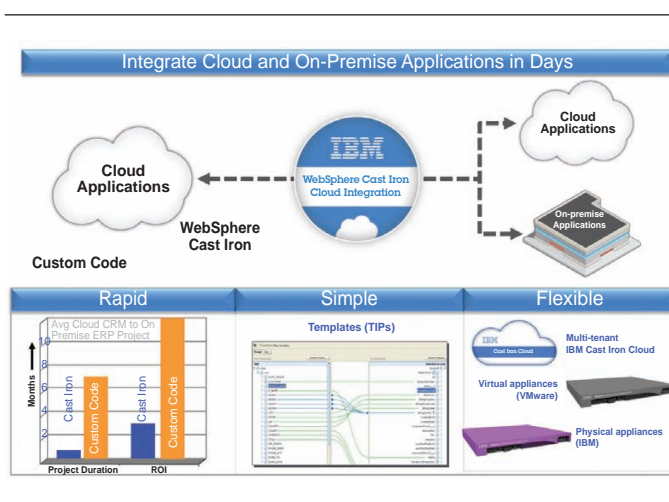
WebSphere Cast Iron Cloud integration

applications are hosted. Companies using the WebSphere Cast Iron Cloud integration can take advantage of a user-friendly interface and a platform-agnostic architecture. The important thing is, it allows your IT department to become self-sufficient. They will not be tied to any specific application architecture, coding language or vendor for their integration needs—effectively "unlocking the shop." It is also the only integration solution in the market which offers the flexibility to completely map to your organization's cloud strategy, as well as scalable deployment options: WebSphere Cast Iron Live, a multitenant Integration-as-a-Service (IaaS) cloud offering, WebSphere DataPower® Cast Iron Appliance XH40, an integration appliance offering, or WebSphere Cast Iron Hypervisor Edition, a virtual integration appliance. These three offerings are future-proof, enabling IT to choose the deployment option that meets their current requirements, yet allowing them to scale or change deployments as needed to coincide with their strategy moving forward. Let's look at the offerings in more detail.

WebSphere Cast Iron Live is the Cloud integration-as-a-service solution. Using a "develop once, deploy anywhere" approach, WebSphere Cast Iron Live is ideal for customers with a majority of their applications based in the Cloud and with no infrastructure on premise. The offering follows the same model as Software-as-a-Service (SaaS) or On Demand services. SaaS approaches run a company's business applications through a network on a remote host and look and operate exactly as if they were running on the company's own systems. WebSphere Cast Iron Live runs under the same model, meaning companies who integrate using this product can integrate their SaaS and web-based applications in real time.

Companies gain the same benefits with WebSphere Cast Iron Live as with other SaaS applications—subscription pricing, no need to invest in and maintain their own integration IT hardware and software, scalability, support from IBM experts, and no need to invest in integration IT personnel to write custom code.

"Our total cost of ownership with WebSphere Cast Iron Cloud integration was about 75% less than with our competitors."

—Bill Parks, Director of IT, Sonus Networks

WebSphere DataPower Cast Iron Appliance XH40 is a stand-alone, self-contained hardware offering. It is the preferable option for customers with a majority of applications based on-premise who need a standards-based solution and who find software-based integration solutions to be too complex. It comes with all of the required programming on-board for a particular integration project. The device is called an "appliance" because it has the same self-contained/dedicated function characteristic as most appliances, like a network router. They look like any other rack-mounted box, but are dedicated to one important task: integrating multiple on-premise or SaaS applications.

"In Our IT group, we're really small. So we needed a solution we could use without real development and needed to integrate a very low level, technically. So, that's why WebSphere Cast Iron Cloud integration was appealing to us."

—Randy Berger, IT Manager, Siemens Energy, INCI

WebSphere Cast Iron Hypervisor Edition is a virtual instance of the abovementioned appliance offering. This is ideal for companies seeking to deploy a virtualized IT environment, and can be installed and run on their own hardware of choice. Aside from being a virtual offering, it provides the same functionality and environment as its hardware appliance counterpart.

The Cast Iron Integration Solution provides everything needed to integrate applications with the following key features that simplify and accelerate data migration and application integration:

Migration and data quality:

Data Profiling: Assess the quality of your data before commencing data migrations.

Intelligent data cleansing:
- **Duplicate removal (deduplication):** Combine data from various different sources and remove duplicate values.
- **Fuzzy lookup:** Configure sophisticated rules to highlight errors and fix them.

Data enrichment: Perform lookups with third-party providers to enrich your data.

Integration and extraction:

Connectivity: Configurable connectivity to hundreds of applications and end points

Transformation: Drag-and-drop UI for data transformations

Workflow: Visual interface for designing workflow rules

Management: Easy manageability through single web-based console

Finally, WebSphere Cast Iron Cloud integration offers rapid and repeatable success. Its template-based architecture provides a foundation for best practices based on successful integration projects for the most common connectivity scenarios and applications. Many times, these template integration processes (TIP's) will bring the project up to 60 percent completion out-of-the-box. This accelerated advantage equates to eliminating much of the cost associated with integration projects—up to 80 percent. Regardless of whether you choose the Cloud, Appliance or Virtual offering, you will get the same highly sophisticated integration logic, data mapping, configuration tools and management capabilities described above.

Companies use WebSphere Cast Iron Cloud integration to solve a variety of application integration problems:

Problems Solved	Systems Connected
Single view of customer and product across ERP, CRM and call center applications	ERP including SAP, Oracle, JD Edwards, PeopleSoft, BAAN, QAD, Lawson, Great Plains, etc
Lead to Order integration between marketing automation, CRM and ERP systems	CRM including Oracle CRM On Demand, Siebel, Clarify, Remedy, Kana, Vantive, etc.
Order to Cash integration between CRM, ERP, warehousing and financial systems	On-demand applications including salesforce.com, RightNow, NetSuite, etc.
Pricing and product catalog information between ERP and customer portals	All major databases including Oracle, DB2, SQL Server, Sybase, Informix
POs, shipping notices and payments with suppliers	Flat files using FTP, HTTP(S), email
Repair and warranty information between call centers and customer portals	XML and Web Services
Data extraction from ERP/CRM to reporting and BI systems	EDI
Data migration from legacy to new applications	Middleware and all major EAI platforms
Mergers, acquisitions & divestitures integration	Project management applications including CA Clarity
Retail store integration with merchandising systems	And many more…
Enabling Service Oriented Architectures (SOA)	

What rapid, flexible and simple mean for your business

WebSphere Cast Iron Cloud integration provides many benefits when compared to traditional software-based approaches (EAI, ETL, DW and custom code) to solve application integration problems:

✓	**Fastest time-to-market:** Customers can start using WebSphere Cast Iron Cloud integration to design and deploy an integration project within hours. This integration product provides a graphical modeling environment that enables customers to connect applications through a simplified, wizard-based graphical interface without ever having to write a single line of code. Because it is specifically designed for a single purpose, the WebSphere Cast Iron Cloud integration is by far, the fastest way to connect your cloud and enterprise applications. IBM has a host of customer case studies across industries and company size which demonstrate the product's ability to successfully deliver complex integration projects in just days.
✓	**Lowest costs:** WebSphere Cast Iron Cloud integration is very different from other integration options in use today. It provides all of the functionality needed to solve application integration in one device or service. It includes all the necessary connectors, management and monitoring capabilities, as well as the ability to connect any number of endpoints across any connectivity protocol. The hosting costs of an appliance are about 90 percent cheaper than that of a hardware server. The combination of the rapid time-to-market and reduced deployment and maintenance costs equate to the potential for companies being able to slash their total cost of ownership by 80 percent and achieve a return on their investment in less than 3 months.
✓	**Better utilization of skills:** WebSphere Cast Iron Cloud integration is purpose-built for a phased approach to solving integration problems. There is no requirement for specialized middleware programmers or even the need to write a single line of code to execute successful integration projects. Instead, a systems administrator, a business analyst, or a junior applications developer can configure projects in days and deploy to production in minutes using a drag-and-drop GUI. This way, IT departments can free up their most skilled resources for complex projects while leveraging other resources for the tactical, point-to-point integration problems.
✓	**Simplest operations and management:** WebSphere Cast Iron Cloud integration can be monitored and managed remotely from a web interface which facilitates maintenance, management and repair from a centralized location. It provides proactive alert notifications on data and connectivity errors that help IT fix the problems before business users report them. With the Cloud, all management and repair is done by IBM, the service provider. With the Appliance and Virtual instance, the offering uses a simple, cost-effective, "repair by replacement" strategy—if a problem arises, you just swap out the appliance with another one provided by IBM, with no loss in logic or data.
✓	**Reusability using Template Integration Processes (TIPs):** With thousands of successful customer integrations, WebSphere Cast Iron Cloud integration leverages a wealth of integration experience to provide a comprehensive set of TIPs. Offered for the most common integration scenarios between a number of enterprise applications like salesforce.com, SAP, Oracle, etc., these TIPs eliminate the need to build your integrations from scratch. You can simply log in via your browser, select the template that best suits your requirements and enjoy proven, supported and certified processes. The TIPs can also be further customized to meet your specific needs using a simple configuration wizard.
✓	**High Availability option:** WebSphere Cast Iron Cloud integration is also available with a High Availability (HA) option for mission-critical on-premise integration projects that need 100 percent real-time availability. While traditional High Availability solutions require multiple specialist resources and weeks to assemble, code, test, deploy and maintain; the High Availability option can be installed in under one hour. This option ensures no data loss and requires no manual intervention upon failure—a quantum leap for all mission-critical data centers.
✓	**Low, flexible pricing options:** The growing popularity of Software-as-a-Service (SaaS) applications is in no small part due to term or subscription pricing models that eliminate large upfront payments. For many customers, having to pay upfront for an application integration solution to connect their SaaS application with other corporate systems would decrease the flexibility gained by a monthly SaaS subscription plan. WebSphere Cast Iron Cloud integration addresses this customer need and is available with low monthly term licensing for both the Cloud and Appliance options.

An approach that extends current integration solutions

WebSphere Cast Iron Cloud integration complements existing integration and connectivity solutions, specifically within the WebSphere portfolio, and it improves overall enterprise integration because of its focus on speed, flexibility and simplicity in connecting SaaS applications to the enterprise. Many Fortune 500 companies choose WebSphere Cast Iron Cloud integration to augment their existing integration solutions. For example, one of the world's largest electronics manufacturers uses EAI solutions extensively for business process integration problems. Recognizing that the complexity of using EAI technology for cloud application integration projects is not cost-effective, they have adopted two standards for integration: EAI for process integration and WebSphere Cast Iron Cloud integration for point-to-point application integration.

In such a context, EAI technologies can be viewed as freight trains that use railroad backbones to transport goods (heavy-weight business processes) between large stations (endpoints such as ERP and financials). WebSphere Cast Iron Cloud integration can therefore be viewed as the trucks that transport the goods to and from the major freight train stations which then transport these to the end destinations. In other words, appropriate purpose-built solutions are applied to the appropriate tasks.

Summary

By using WebSphere Cast Iron Cloud integration with the "connectivity in context" approach, application projects are dramatically simplified and accelerated. As a purpose-built solution designed exclusively for application integration, the flexible deployment offerings of the Cloud and Appliance eliminate the complexity from connectivity projects and enable companies to successfully integrate in days, rather than weeks or months. Companies achieve rapid integrations due to the simple installation (plug in the integration appliance or turn on the integration service) and the easy drag-and-drop configuration approach along with the preconfigured integration templates called TIPs. The "configuration, not coding" approach eliminates the need to use expert resources for application integration and allows companies to reallocate highly skilled resources to more strategic projects. With thousands of customer integrations across industries, geographies and company sizes, organizations are benefiting from the speed, flexibility and simplicity of the WebSphere Cast Iron Cloud integration to deliver application integration in days.

For more information

To learn more about WebSphere Cast Iron Cloud integration, please contact your IBM marketing representative or IBM Business Partner, or visit the following website:
http://www.castiron.com

Additionally, financing solutions from IBM Global Financing can enable effective cash management, protection from technology obsolescence, improved total cost of ownership and return on investment. Also, our Global Asset Recovery Services help address environmental concerns with new, more energy-efficient solutions. For more information on IBM Global Financing, visit:
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About the author

Jaime D'Anna is a Senior Product Marketing Manager at IBM, driving product marketing activities ranging from corporate messaging, channel enablement and product positioning to leading strategic programs and collateral creation. With over 15 years of professional experience, Jaime has held roles in Product Marketing, Product Strategy and Presales Engineering in industry leading organizations specializing in ERP, CRM, BPM and ECM. He holds a BS from Santa Clara University as well as a number of industry and regulatory certifications.

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