What is the difference between enterprise application integration software and web services?

Enterprise Application Integration (EAI) is a solution to integrate various digital applications into a business and has existed long before Web Services were available in the market. Some of the leaders in the enterprise application integration domain were Tibco, See Beyond, and Webmethods. Out of these only Tibco survives in the market today. With the advent of web services, as the modern standards for web services-based integrations came in, particularly the BPEL and BPM-based technologies functioning as an extension of the web servers, some of the older architectures and organizations failed to keep up with the competition.

Presently whenever we talk about web services we inadvertently evoke references to dominating giants such as Google Web Service, Amazon Web Services, and Google Cloud Services, among others. Moreover, today we are at a crucial juncture of time where cloud applications are dominating enterprise applications and a new breed of integration solutions is a better fit. This article focuses on the basic differences between enterprise application integration and web services for a modern-day tech-backed business.

What is Enterprise Application Integration?

Applications that can mitigate the operational challenges of an enterprise are known as enterprise applications. Some of the most important examples of enterprise applications are Customer Relationships Management software such as Salesforce CRM and Hubspot CRM, Project Management Applications such as Trello, Basecamp, and Asana, Business Intelligence Applications such as Jaspersoft and Zoho Analytics, Enterprise Resource Planning Software like Netsuite and Bitrix24, and Business Continuity Planning Applications like Microsoft R Server, GoodSync, and Nero. In the present context, several enterprise applications have to be leveraged by businesses to earn a competitive edge. Here comes the importance of enterprise application information.

Enterprise Application Integration is a solution leveraged as a framework for integration, which is actually an array of services and technologies that seamlessly integrate all such solutions and applications into business processes that enable digitally transformative processes such

as data sharing and process automation. It can be said that enterprise application integration is an architectural structure of information systems that allows diverse software to interact with each other while virtually controlling these communicative technological exchanges. In simpler terms, it is the translation of data and other forms of information from one system to another to facilitate business processes is known as enterprise application integration.

Enterprise application integrations are incessantly evolving to simplify business processes. Hence enterprise application integration allows for a more agile and flexible architecture which further allows enterprises to independently restructure business processes in their environment. Basically enterprise application integration services facilitate a variety of applications in the tech stack of a company to share business and operations data. Besides, such integrations are aimed to improve the overall business productivity and lower the deadtime incurred in the backend business processes.

What is a Web Service?

Web Services basically include any software, cloud tool, application, or technology that renders standardized web protocols (HTTP or HTTPS) to interact, communicate, and exchange data messaging, generally XML (Extensible Markup Language), across the internet. It could be said that web services are essentially XML-based data exchange systems that utilize the internet for interfacing and application-to-application communication. [Web services](#) may involve programs, messages, documents, and objects.

A primary attribute of web services is that applications can be encoded in multiple languages and they will still be able to communicate by exchanging data with one another through an interactive system between clients and servers. A customer may mobilize a web service by sending a request through XML, after which the service reciprocates with an appropriate XML response. Web services are also often associated with Service-Oriented Architecture (SOA).

A web service is an array of open protocols and standards that facilitate the exchange of data between different applications and systems on the internet. They can be leveraged by software programs created with a variety of programming languages and running on a wide number of platforms to interchange data via computer networks such as the internet in a way similar to the phenomenon of inter-process communication on a single computer. Web applications are usually created with browser-compatible servers and client-side scripts such

as [Javascript](), HTML, ASP, and PHP. Hence, the precise intersection of the code allows for the possibility of an excellent web application that caters to the request of users.

Moreover, dynamic web applications demand server-based processing to perform the task in contrast to static web applications. Web Services allow access to data across networks like the internet and work on standardized XML protocols. They are largely independent of any particular operating system or programming language. And, it is easily discoverable through a simple location approach. However, to better understand what enterprise application integration is and how it weighs in with web services, we must take a comparative study of both their pros and cons.

Pros and Cons of Enterprise Application Integration

Advantages of Enterprise Application Integration

There are myriad advantages of an enterprise application integration including large data capacity along with high scalability, extensive configurability, and exceptional interoperability possibilities, et al. Moreover, it allows operations analytics and great systems for identity management, privacy, and security assurance. There is also a possibility of disaster recovery and redundancy resolution.

Disadvantages of Enterprise Application Integration

There are a handful of disadvantages to enterprise application integration such as the continuously evolving nature and dynamic scope of the field. This makes it quite difficult for the developers to satiate the growing business needs. Enterprise application integration also software lack transparent visibility of the system. Besides, there are significant risks of information loss especially the ones which may not seem relevant initially.

Pros and Cons of Web Services

Advantages of Web Services

Web services have a plethora of advantages such as an inexpensive application experience at the cost of a website, multi-device functionality, and smooth application integration. It also uses a responsive user design with a fast request execution time frame that can enable businesses to cater to millions of users at any given time without incurring a technical flaw. Web services also integrate safe data centralization with simple backup functions and seamless application service across different operating system platforms.

Disadvantages of Web Services

There are a few disadvantages of web services for businesses as well. As web services are directly connected to web browsers the size of the application virtually increases. This slows down the overall performance of the web services. The absence of a quality control system compromises the safety and security of web service-based applications. It becomes difficult to market and creates awareness about such web service applications as they are not readily available on marketplaces such as the Google Play Store or the Apple App Store. Moreover, there is also a constant risk of application failure in case the website crashes due to reasons such as programmatic redundancies or unrealized volumes of traffic on the webpage. This makes the performance of the application contingent on that the frontend and backend integrations of the website.

Enterprise Application Integration: Use Cases

The following are a few of the major use cases for enterprise application integrations:

- Integration of SaaS products and cloud systems into in-office systems
- PaaS to automate daily backend business operations
- Connecting SaaS, cloud, and other enterprise applications to available APIs
- Integrating a range of business applications for in-office and on-cloud accessibility
- Management of company data and providing quantitative analytics for business intelligence

- Digital cloud integration for on-site applications
- Connecting IoT-enabled devices through the cloud to enterprise applications

Web Services: Use Cases

The following are a few of the major use cases for web services:

- Storage of large volumes of company data and other valuable information
- Effective management of data operations
- Fetching relevant data and information required for any particular business process
- Establishing a seamless and fast transfer protocol between the servers and the server client
- Maintaining a digital database of employees and their records for speedy access.
- Ensuring data protection against theft, leaks, and breaches by maintaining a firewalled centralized server system.

Wrapping Up

An enterprise application integration and web services serve a wide range of purposes in the digital transformation of a business. Both of these processes are quite mainstream and used by businesses of all sizes and in all domains to develop efficient backend operation systems and resolve data-related issues including storage, fetching, and management of the acquired data. Moreover, if we are comparing the two processes, there is no one clear winner. A business must opt for the right fit process based on the requirements, business aspirations, target audience, budget, and team availability, among others.

While an enterprise application integration can resolve most issues with developing and integrating backend software systems, web services provide a fast, cost-effective, and robust [data](#) solution for the business. Both these operations can be used by a business simultaneously to get the best possible results. It can also be stated that the pros outweigh the

cons in both these processes. Connect with a technology expert at Focaloid Technologies to know more about the innate differences between enterprise application integration software and web services, and more.