

# iPaaS – Cloud Solution for the Cloud Problem

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**W**ITH rapid industrialisation and development in the field of computing technology, new business software applications are being developed in a continuous fashion and deployed as Software as a Service (SaaS).

Generally, these applications are developed to meet certain functionalities for a specific area of business. In other words, systems and applications have been built that are efficient and effective to serve a single purpose for a specific set of users. Most organisations have a number of these stovepipe applications in their enterprise — such as, finance and accounting, inventory control, sales, human resource systems, etc. These systems were typically custom built, keeping in mind some specific business needs by utilising the technology-of-the-day.

Today's big as well as small and Medium-sized Businesses (SMB) are buying application/solutions using Software as a Service (SaaS) from cloud providers that cover most of the well-known business application areas, related to

- Finance and Accounting
- Business intelligence
- Business process management
- Customer Relationship Management (CRM)
- Enterprise Resource Planning (ERP)
- Supply Chain Management (SCM)
- Product Data Management (PDM)
- Material Management
- Human Resource Management
- Enterprise eCommerce

As SaaS lowers the Total Cost of Ownership (TCO) and provides better Return on Investment (ROI), business organisations are looking towards it to achieve prosperous

development and overall organisational growth. But, with every advantage there is a corresponding disadvantage too, which in this case is data and application integration.

Therefore, in modern enterprises, many of these applications are implemented for particular requirements of functional sectors, and are mutually independent. Now, when organisations are executing cross-sector business processes, they require point-to-point connections between these mutually independent applications. But, it has been proved that point-to-point connection scenarios not only increase integration costs with difficulties in maintaining, but also create severe potential risks in security and regulatory compliance.

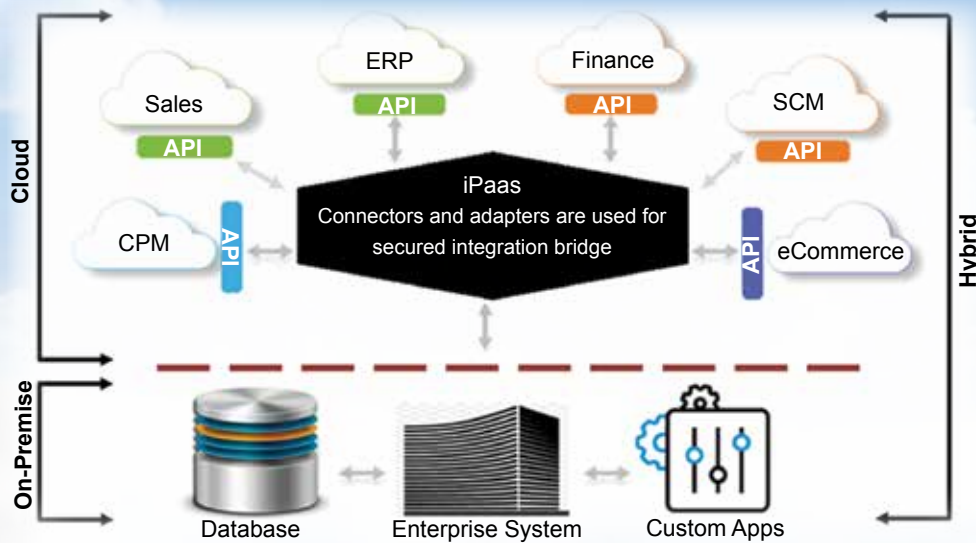
Unfortunately, most of these business-critical applications/systems are difficult to adapt to the changing market and upcoming business requirements. They are not able to communicate and share information with other more advanced and sophisticated systems/applications. With the increase in the number of business applications, more and more connections between these applications will have to be established, which will be hard to manage and would not be cost effective. The situation demands a solution, which can deal with the technologies and technicalities of integrating heterogeneous applications and components to support the inter-organisational business processes.

In the IT and digital business industry SaaS providers and even the legacy software vendors have started to reengineer their product/applications from traditional, singletenant, on premise application models to multitenant, SaaS-based model cloud offerings. So, after developing islands of business applications through generations of technology, business managers and users are in search of a seamless bridge that will join them. Because every business be it large, medium or small suffers from system integration issues.

In other words, today business is demanding ways to bind these applications into a single, stable, unified enterprise application that will allow the various stovepipe applications that exist in today's market to share data and processes among them. Without integration the same data needs to be generated in other applications which are already present in some application. This creates money and man-hour losses that are very critical to any business.

All businesses have their own processes and types, and are unique in some sense. A typical business/enterprise has many departments or business units, such as production, marketing, manufacturing, finance, SCM, CRM, etc. and for all these departments separate applications need to be installed to meet the requirements. These distributed, somewhat monolithic, single-purpose applications create a mess in the business landscape and development approaches. Again, as these departments or business units need to communicate and exchange data continuously with one another, integrating the data becomes time and money consuming.

So, what's the solution? With the growing, far reaching and complex dependency of the corporate sector on technology, the need for a method of integrating disparate



iPaaS helps to integrate critical line-of-business applications, thereby making the business process more effective, efficient, profitable and productive. For example, these integration platforms can integrate and connect ERP with enterprise eCommerce solution, marketplace, CRM applications or other software that business uses.

The concepts and architecture of iPaaS address some of the key functionalities enveloped with the state-of-the-art technologies in the domain of

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heterogeneous applications using a unified set of business processes has emerged as a priority.

The solution lies in a new approach to enterprise integration using a cloud-based Integration Platform as a Service (iPaaS). iPaaS can be thought of as a suite of cloud services. One of the best definition on iPaaS was given by Pezzini and Lheureux, Gartner-2011, defining iPaaS as “a suite of cloud services enabling development, execution and governance of integration flows connecting any combination of on-premises and cloud-based processes, services, applications and data within individual, or across multiple, organizations”.

It provides services for application integration that help wipe out business losses by facilitating applications to communicate with each other and share data among them. The integration of applications enables organisations to save precious development dollars and typically creates a competitive edge for corporations sharing application information either within their boundary or outside.

iPaaS connects and provides integration for on-premises and cloud-based applications, services, processes across devices, channels and trading partners, within specific or across multiple organisations. As a result, this technology is considered as a set of automated tools for connecting software applications/solutions that are deployed in diverse environments.

Today this service is exploited by almost all large, medium and small enterprises/organisations that need to integrate their on-premises/cloud-based back-office applications with their front-end cloud applications. Therefore, with effective integration platforms, this problem can be solved in a moment.

application integration, data integration and business process management. Generally the technologies of iPaaS are inspired by that of enterprise application integration which was standardized based on some technologies such as web services and are extended beyond the traditional Service Oriented Architecture (SOA) concept of the Enterprise Service Bus (ESB). iPaaS deals with integrating cloud-based, on-premise and legacy systems, building global data schema, modeling and describing business processes, thereby helping the business organizations to streamline their business processes

iPaaS has successfully catered to the need of organisations for an enterprise integration strategy to deal and tackle the massive disruptions brought about by the hybrid era of cloud and on-premises. It plays a prime role in the integration strategy by providing cloud-based service platform that supports data and application integration.

A typical iPaaS provides cloud integration platforms that can be used for cloud-to-cloud, cloud-to-on-premise, or even on-premise-to-on-premise integration including legacy applications. This is accomplished by the use of specialised connectors for SaaS applications that help to make connections between the end applications using different protocols and use adapters and connectors to enable the integration process. iPaaS offers on-demand integration middleware that has the capability to enable any kind of integration be it SaaS-to-SaaS, SaaS-to-on-premise or on-premise-to-on-premise.

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