Five Attributes Of Enterprise Cloud Applications

Abstract: In this position paper, we define the five core attributes of a modern enterprise cloud applications, which includes Simplicity, Cloud Scale Architecture, Open APIs, Mobile Platform Support and Social Awareness. We expect this definition to help organizations differentiate between true cloud applications from a cloud-washed applications. Such an understanding will help enterprises to fully take advantage of the core benefits offered by the modern cloud applications. This position paper could also serve as a blueprint for enterprise software vendors as they prepare for a world with increased cloud usage.

Krishnan Subramanian
Analyst, Krishworld.com

Introduction

As more and more enterprises embrace cloud computing in a big way, there is a natural tendency among the vendors to cloud-wash their applications and claim cloud credentials. Essentially, some of the vendors are re-purposing their existing products and offer it as a service by usually hosting it on cloud infrastructure. Even though there could some advantages with this kind of application delivery, organizations cannot recognize the full potential of real cloud applications. As enterprise cloud adoption increases, we are seeing increasing number of companies that are either cloud washing or marketing their applications falsely as cloud applications. Such tactics not only results in wasted expenditure in today's tight economy, it could also increase the complexity leading to decreased efficiency.

In this position paper, we are trying to help organizations wade through cloud-washed marketing pitches by putting forward five core attributes for any modern enterprise cloud application. Not every cloud application will have all the five attributes perfectly implemented but it is important that they either try to incorporate these attributes at varying levels or publicly have it on their future roadmap. We hope that this position paper will help organizations identify the real cloud applications that could add value to their core business.

Why Enterprise Cloud Applications?

Before we define the core attributes of a modern day enterprise cloud application, we would like to offer our thoughts on the advantages offered by cloud applications from our perspective. This clarification could, in turn, help readers appreciate the core attributes defined in this position paper.

Even though the cost advantage offered by cloud applications is projected as one of the core advantage, it may not be the case for every organization or every scenario. Cost is definitely an advantage in many cases but it may not be the case in some others. Even if cost is not an advantage for the cloud application considered by an organization, we strongly recommend them to go forward with cloud applications because of other important advantages outlined below. Moreover, there is no guarantee that the subscription cost for a particular application will stay low forever. Market dynamics might help the vendor to increase the pricing at a later stage.

From our perspective, cloud applications have very important advantages in terms of agility, increased productivity and the ability to pursue newer opportunities that were not available with the traditional setup. The elasticity, collaborative DNA in the cloud and the metered billing are responsible for the increased agility, productivity and opening up of newer opportunities that are offered by enterprise cloud applications. We consider these advantages to be more important for an organization than any cost savings that one may incur.

Core Attributes Of Enterprise Cloud Applications

In this section, we will define the core attributes of modern day enterprise cloud applications. These applications are usually multi-tenant, can scale up and down to meet the demand and are billed based

on usage. Such applications will have some core attributes that are necessary to meet the demands of modern day organizations competing in the global marketplace.

We define the following five attributes as necessary for an application to be classified as an Enterprise Cloud Application:

- Simplicity
- Cloud Scale Architecture
- Open APIs
- Mobile Platform Support
- Social Awareness

The following sections offers a more detailed look at each attribute listed above with some examples from the current market.

Simplicity

This is a very important attribute in today's enterprise applications because the user behavior regarding how applications are consumed has changed drastically. Mainly due to the consumerization of IT, the application consumption pattern has changed from monolithic bloated desktop apps with all the bells and whistles to consumption of application features from multiple devices and even from multiple applications. In short, modern day applications serve a dual purpose of both an application for direct consumption (mostly through browsers or mobile apps) and a platform for consumption through APIs. This change in the consumption pattern requires applications to be simple with the functionality exposed to ensure seamless user experience.

Any modern enterprise application should focus on user experience than bells and whistles. In order to do that the application should be simple and fast. Any complexity will be a big turn off to users in the new consumption era. A good example highlighting this attribute is Google Apps that offers seamless user experience across many different devices both as a native app and on browser. If any application vendor want to attract mindshare among today's users, it is important that they ensure simplicity in their applications.

Cloud Scale Architecture

Modern cloud applications have a completely different architecture from the traditional applications, which are more suitable for scaling up. Cloud application are architected to take advantage of the underlying low cost distributed infrastructure. Such an infrastructure allows applications to programmatically take advantage of dynamic scaling using a scale out approach, to meet the rapid scaling needs of a multi-tenant environment. On the other hand, it also involves designing the application for hardware failures.

Unless the enterprise cloud applications are architected for cloud scale, they cannot meet the needs of a globally dispersed workforce with access from wide variety of devices. Even though legacy applications can be hosted on the cloud, it cannot offer some of the scalability and cost advantages offered by the actual cloud applications. If an application vendor is not architecting for the cloud scale, they are bound to hit roadblock sooner than later and may not be able to meet the needs of modern day mobile workforce.

Open APIs

In today's world, APIs are key for any modern application. As the consumption model changes from accessing a monolithic desktop application to accessing functionality through many different devices and applications, all the modern day applications also behave as platforms. The only way for these applications to gain traction and be relevant in the market is by exposing its functionality through Open APIs. Any application without such an API is doomed to fail. Open APIs not only extend the functionality of enterprise cloud applications but also make integration with other applications seamless. Gone are the days where consumer focused web applications were considered to be perfect candidates for APIs and today's modern enterprise applications are expected to have them by default.

All the enterprise cloud applications are expected to have open APIs, and as a follow up to this, a vibrant ecosystem of third party applications that either extend the application functionality or integrate with them. Gone are those days when organizations went to a single vendor for all their IT needs. Users in today's modern organizations are smart enough to understand that these applications are there to serve their needs than the other way around. As more and more young users enter the workforce, they are not contended with using applications approved by their IT leaders. Instead, they pick up and use applications that will get things done for them, often times, completely bypassing IT. The availability of cloud based applications makes it easier for them to procure and consume without worrying about licensing issues or getting an application installed on their machines. If an enterprise cloud application vendor wants to make their application palatable to modern users, they should implement open APIs and encourage an ecosystem to develop around their application.

Mobile Platform Support

As smartphones and tablets proliferate the enterprise either by the organization supplied devices or BYOD (Bring Your Own Device) approach, mobile platform support has become a critical attribute to any enterprise cloud application. There are two ways to support mobile platforms, native apps popularized by Apple's iPhone and mobile web apps made possible by HTML 5. Most of the features are made available to the mobile devices using either of these two approaches. There are pros and cons to each of these two approaches and, lately, we are seeing the emergence of a hybrid model incorporating mobile web into native applications.

While the mobile web applications can offer the same user experience across wide variety of devices in all modern mobile platforms, native applications can take advantage of some of the features of the underlying mobile operating system to offer better user experience. Even though it is not a necessary condition (and in some cases, it may not even be possible), we strongly advise the vendors to ensure

feature parity in all their native mobile apps in different mobile platforms. In fact, we don't consider any enterprise cloud application without support for multiple mobile platforms to be a credible enterprise player in this modern era.

Social Awareness

All modern enterprise cloud applications are expected to have social integration both internally and externally. Even though the social networking tools like Twitter, Facebook, etc. are expected to be integrated with customer facing applications, even the internal applications are expected to have collaborative features built in that makes modern day global scale collaboration easy and seamless. Human beings are inherently social. Before the advent of Internet and tools like Twitter and Facebook, organizations had face to face meetings, telephone calls and, even, postal mail that made collaboration possible. Even some of the legacy applications had collaborative features built in some form or another. However, social technologies like Twitter and Facebook taught us how social features can be implemented for more effective collaboration and, hence, increased productivity. As enterprise applications became cloud native, it was easy to implement these new age social features into these applications and, thereby, increasing the productivity of entire organizations.

Social is all about people and we expect the social features of enterprise cloud applications to offer:

- an easy and seamless collaboration between different stakeholders in an organization, both internal and external
- social features to be deeply integrated along all dimensions of the applications
- a way to extend the social features to the third party applications in the ecosystem
- a way to extend social features into the organizations' workflows
- fine grained control over roles and permissions to match the needs of any organization of any size

Not all enterprise cloud applications have social features implemented that could meet the requirements outlined above but we expect the application vendor to have a roadmap to make their applications socially aware in the near future.

Conclusion

As more and more enterprises embrace cloud applications, we are seeing a large number of legacy applications or half-baked applications marketed as cloud applications. This leads to tremendous confusion in the minds of enterprise users leading to bad decisions and unexpected disruptions. In this position paper, we have defined five core attributes that define a modern day cloud application, thereby, helping the enterprise buyers to navigate the crowded marketplace. We argue that any application that fail to encompass all these five attributes cannot be categorized as an enterprise cloud application. However, since the modern day cloud based enterprise software market is still in early stages, we also

realize that the maturity of some of the attributes implemented in some of the applications may not be complete. In such cases, we recommend that the vendor offer a roadmap highlighting when these attributes will be fully implemented in their application(s).