BPM in the Cloud - Transforming the Business Case for Process Improvement

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Executive Summary

It's taken a while but business process management (BPM) technologies are making the transition to the cloud. In the same way the cloud has transformed the business case for generic business applications, BPM in the cloud represents an opportunity for small and medium size organizations to de-risk their process improvement activities and access powerful process solutions that would have previously been denied to them.

This Article discusses the business benefits of choosing a cloud enabled BPM platform and where BPM fits into the overall cloud architecture. In addition it looks forward showing the deployment of BPM in the cloud as the first step of a journey that will eventually transform where and how business processes are delivered.

Introduction

Within an enterprise the cloud means different things to different people. For the CFO it's a means of reducing upfront costs and for the COO it's an outsourcing opportunity. For the CIO its delivery of computing as a service rather than a product and for the CTO it's an opportunity to enter new business markets. For the CEO however it presents all of this as well as a strategic business opportunity to leapfrog competitors through the creation of a more agile and responsive organization.

Today we use the term "Cloud" and "SaaS" almost interchangeably. While incorrect, it's understandable how this has occurred. SaaS applications like Salesforce.com, Office 365 and Google Apps have been at the forefront of the march towards the cloud and have captured market attention making the term SaaS synonymous with the cloud.

SaaS is however only one of four primary cloud based software delivery models; Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Business Process as a Service (BPaaS) and Software as a Service (SaaS).

This Article focuses on BPM in the cloud and discusses where it sits in the overall cloud service architecture as well as the future market opportunities and challenges it presents for BPM customers as well as business process service providers.

BPM in the Cloud – What Kept You?

Cloud computing has been around in various forms for quite a while, from concept in the 1960's, through the development of VPNs (virtual private networks) in the 1990's to the rapid growth period we are witnessing today.

As consumers we've been using web-delivered computing as a service e.g. web mail, e-banking, social media etc. for a long while. Enterprises meanwhile have been taking advantage of business processes outsourcing (BPO) organizations for years. More recently mass market packaged business applications such as CRM and email have begun to make the transition to the cloud. Applications like Salesforce.com have never been on premise. Adoption of cloud delivered packaged apps is rapid as they provide standard, generic business functions to all customers.

BPM applications however do not share the same features as packaged applications, and as a result cloud adoption has been slower:

- o BPM suites are platforms for building process solutions rather than packaged apps.

- o BPM requirements vary from customer to customer. Few customers run identical processes. A 'one size fits all' process is impossible to achieve.

- o BPM acts as a process layer on top of many business applications such as email, CRM, ERP and data repositories. Integration requirements between the BPM application and other business applications and data

      repositories will vary from customer to customer. Many organizations have chosen to wait until they get their enterprise data to the cloud before migrating their BPM suites.

o   Business processes are not only variable, they are unpredictable as well. A key benefit of BPM is the ability to rapidly adjust processes in minutes in response to changing market requirements.

Despite the slow start and the differences between BPM and packaged apps the business benefits of cloud migration are such that the transition of BPM to the cloud is now underway.
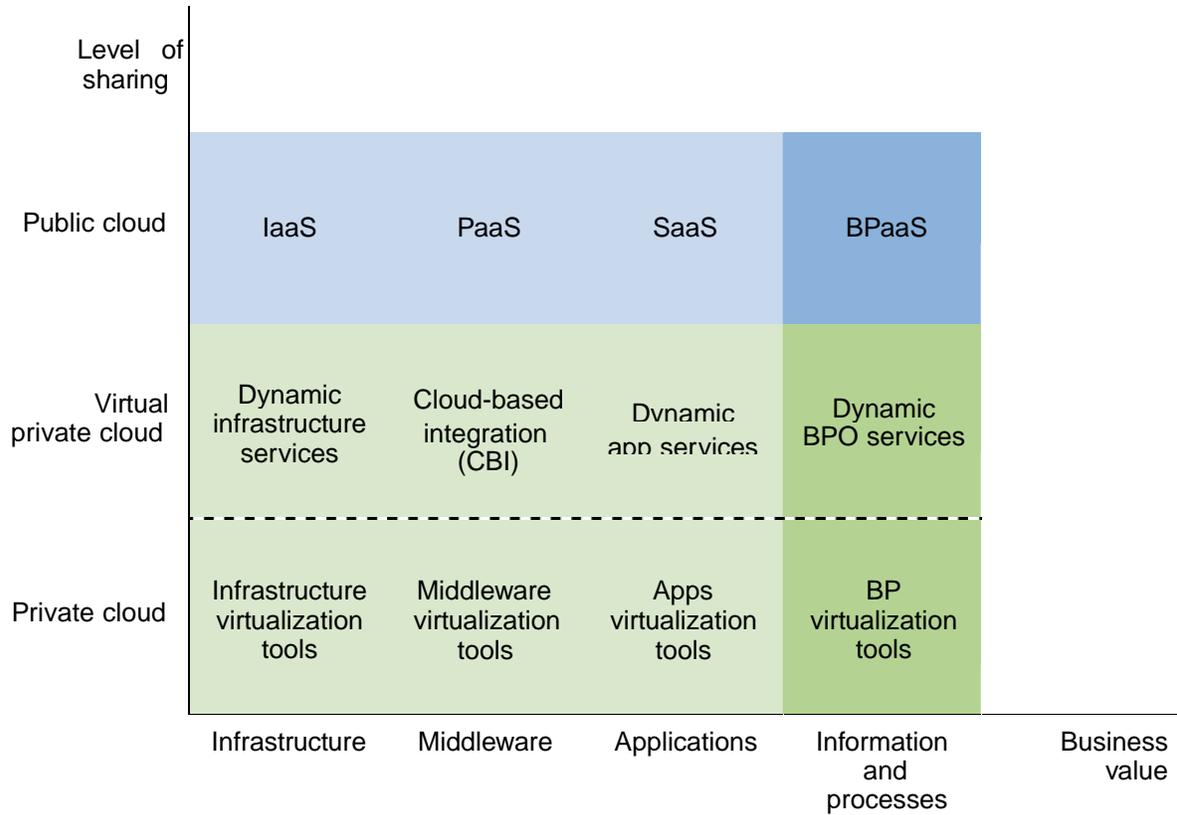
BPM in the Cloud

BPM software in the cloud is often regarded as a SaaS application: it is software delivered remotely, on demand and via a 'pay as you go model.' More recently BPM is being regarded as a PaaS as it facilitates the creation and deployment of applications, in this case business process solutions.

The PaaS landscape is the least developed of the four cloud based software delivery models previously discussed. The early PaaS vendors (IBM, Oracle, Microsoft) delivered an application platform with managed cloud infrastructure services however more recently the PaaS market has begun to evolve to include other middleware capabilities including process management.

BPM PaaS is the delivery of BPM technology as a service via a cloud service provider.[1] In order to be classified as a PaaS a BPM suite requires the following capabilities: the architecture should be multi-tenant, it should be hosted off premise and it should offer elasticity and metering by use capabilities.

When we refer to BPM in the cloud what we are really referring to is a combination of BPM PaaS and BPaaS (Business Process as a Service).

BPM PaaS is a complete pre-integrated BPM platform hosted in the cloud and delivered as a service, for the development and execution of general-purpose business process application.

Level of sharing					
Public cloud	IaaS	PaaS	SaaS	BPaaS	
Virtual private cloud	Dynamic infrastructure services	Cloud-based integration (CBI)	Dynamic app services	Dynamic BPO services	
Private cloud	Infrastructure virtualization tools	Middleware virtualization tools	Apps virtualization tools	BP virtualization tools	
	Infrastructure	Middleware	Applications	Information and processes	Business value

Figure 1. Forrester's Cloud Computing Taxonomy
(Source: Sizing The Cloud, Forrester Research, Inc., April 21, 2011)

BPaaS is similar to what we understand as SaaS but is focused on business processes rather than business applications. BPaaS is the distribution of highly standardized end-to-end business processes delivered similar to SaaS via a pay-per-use, self-service consumption model.

The Business Benefits of the Cloud

The goal of cloud computing is to reduce upfront cost, on-going costs, and take complexity out of an application's lifecycle.

The business benefits of moving IT applications to a cloud based infrastructure have been articulated at length elsewhere. In summary these benefits include:

- o Lower Start-up Costs
- o Cloud services reduce the upfront costs for both IT infrastructure as well as software.
- o Capex to Opex
- o Cloud deployment replaces the risks associated with large capital investment with smoother predictable operational expenditure. Large one-off software upgrade costs are also eliminated.
- o Enables you to Stay Current
- o Cloud customers benefit from using the latest product SW version and can rapidly leverage new feature capabilities.
- o Requires You to Pay Only for What You Need
- o Rather than over or under engineering an on premise business application, 'elastic scalability' ensures that customers only pay for the capacity they need when they need it.
- o Provides High Performance and Continuous Availability
- o Automatic load balancing and failover provide continuous availability.
- o Together these benefits combine to deliver a dynamic, responsive IT infrastructure that can be rapidly adjusted to meet the business objectives of the organization.

The Business Benefits of BPM in the Cloud

As well as the general cloud benefits outlined previously, the deployment of BPM platforms and business processes in the cloud deliver the following additional business benefits:

Business Case Transformation

BPM PaaS represents an opportunity to transform the business case for BPM and process improvement. Today many BPM applications are largely limited to large and multinational enterprises. Deployment of BPM in the cloud presents the opportunity to extend the market reach of BPM applications into the SME (small and medium enterprise) market.

Low start off costs and the ability to only pay for what you need with the reassurance of elasticity and scalability on demand has the potential to transform the business case for BPM for many organizations. BPaaS takes this a step further giving SMEs the opportunity to access business process solutions and industry best practice that they would have been unable to develop in house.

Business Process Outsourcing (BPO)

BPM in the cloud also creates a BPO opportunity for organizations with a specific area of process expertise. Organizations with specific domain expertise in for example financial services, healthcare or legal services can now not only deploy cloud-based process solutions within their own enterprises but rapidly enter the BPO market and resell their intellectual property (IP) through the development of BPaaS process applications.

Rapid Prototyping and Try Before You Buy

The deployment of business process solutions is de-risked through the opportunity for clients to carry out rapid prototyping and testing of BPM solutions in the cloud. For organizations still developing their cloud strategy business process solutions can be incubated in the cloud before bringing on premise.

Extending Business Process to Mobile Devices

Most BPM vendors offer applications across a variety of mobile devices and form factors. Cloud computing extends the mobile capabilities of BPM suites through access to cloud based storage and processing. Cloud based BPM further facilitates collaborative process design and execution on any device, anywhere.

Business Process Management Platform as a Service - BPM PaaS

BPM suites combine the disciplines for managing processes e.g. business rules, SLAs, data, resources with the enabling technology to facilitate their design and delivery e.g. process modeling, process execution engine, connectivity and web forms. BPM platforms are today deployed globally to address the following common business challenges:

- o   Achieve continuous process improvement
- o   Deliver organizational transformation to achieve competitive advantage and differentiation
- o   Reduce the delivery cost associated with standardized and repetitive business processes
- o   Support the efficient delivery of non-standardized or unpredictable business processes
- o   Ensure compliance to industry regulations e.g. SOX and HIPAA
- o   Reduce errors and improve exception handling
- o   Deliver improved visibility of operational performance down to an individual process and task level
- o   Deliver increased business agility through increased ability to respond to changing organizational and market conditions.

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BPM PaaS will be used by many organizations to develop and execute their own in house business processes. For multinationals it offers the ability to develop for example a human resources process or a sales process and roll it out rapidly and consistently across multiple jurisdictions.

The cloud is, however, first and foremost an application and solutions delivery infrastructure. In the short term many organizations will develop and deploy their own in house processes,

however, in the longer term BPM PaaS will also underpin the delivery of high volume, generic business processes (BPaaS) that will be able to leverage the agility benefits of a BPM suite and can also be offered to multiple clients.

Business Process as a Service - BPaaS

Business Process Outsourcing organizations like Capita, Tata and Accenture have been delivering tailored and more standardized processes to clients for years. Delivered via the web these BPO services are often referred to as Business Process Utilities (BPUs). Business services such as human resources, payroll, policy administration and insurance claims are provided by BPO organizations today. BPaaS represents an evolution of this trend of process outsourcing, with the market moving towards the industrialization of business processes and the delivery of high volume, automatically scalable, highly standardized on-demand processes.

The business benefits drawing organizations to BPO organizations apply equally to BPaaS. BPaaS allows organizations to outsource non-strategic back office functionality like payroll and expense management and focus on their core competencies and areas of differentiation. Organizations can benefit from reduced upfront costs and obtain increased organizational agility through the availability of process on demand.

Companies undergoing new regulations can quickly achieve compliance by reaching into the cloud for a standardized BPaaS solution. For more complex business processes such as case management processes organizations can use BPaaS to deliver process fragments during the execution of a case for example credit checks during a loan approval process.

In return for these benefits, in the short term, customers must be willing to accept generic, good enough style processes. Longer term as the BPaaS market matures and the diversity of on demand process solutions increases customers will be able to move up the value chain from "good enough" to process solutions more tailored to their needs.

In effect BPaaS and the distribution of on demand business process solutions in the cloud represent the pinnacle of the move of BPM suites to the cloud.

BPM in the Cloud –The Challenges

Some challenges which are common across all cloud based applications still remain, as do some that are specific to BPM in the cloud.

Data Security

- o Many of the initial concerns about data security in the cloud have diminished over time. In 2009 the US government announced its cloud computing initiative aimed at slashing $76 billion in spending on IT services. In 2012 the UK government launched the G-Cloud Program signaling their intention to move away from traditional IT procurement models. These announcements indicate that the battle to articulate the business benefits of moving business applications and address concerns about data security in the cloud has largely been won.2

- o Concerns in Europe about the USA Patriot Act, giving federal authorities access to customer data hosted in U.S. clouds, still have to be resolved. Failure to resolve this issue may lead to requests from European customers to host BPM solutions with EU cloud providers.

- o Application Integration

- o BPM solutions act as a process layer within organizations, in many cases cutting horizontally across departments and business applications. BPM tools must be able to integrate with business data where ever it resides in an organization e.g. in ECM, CRM, email or in legacy databases and put that information to work on behalf of the process. Many businesses may

be reluctant to use a cloud delivered BPM platform until they migrate this data to the cloud thus slowing adoption.

The Future - Process on Any Device Anywhere

The point at which business processes originate is changing. Today BPM applications exist in the front office through integration with CRM. Increasingly process participation is taking place on mobile devices. The transition of BPM to the cloud and the development of the first BPaaS services represent the next phase of a journey which will eventually deliver process on any device, anywhere.

Today we are seeing the first phase in the development of what is known as the "internet of things." Over the next few years our homes and our cities will become smart through the deployment of radio frequency identification tags (RFID) on almost every type of consumer item. Our homes televisions and cars will contain RFID tags allowing them to be connected to the internet.

This is happening already. For example smart pill bottles can be attached to a wireless system that can alert patients and can notify care providers if the bottle isn't opened.[3]Insurers are now offering 'pay as you drive car' insurance using in car telematics devices which monitor driver behavior and adjusts the price of car cover accordingly.[4]

Once web-enabled, the next step will see the extension of process to smart devices in the same way as mobile devices today. Cloud based storage and processing will facilitate the extension of business process from today's tablet, mobile or laptop devices to our homes and consumer goods such as televisions, cars and medicine bottles. Processes such as repair requests, prescription reordering, customer support, warranty registration will automatically be triggered by consumer devices attached wirelessly to the web.

Cloud, mobile and the "internet of things" will coalesce with BPM to extend process to any device, anywhere.[5,6,7]

Summary

The cloud has the potential to transform the business case for BPM. New BPM business models delivering low start-up costs, try before you buy, the ability to only pay for what you need with the promise of rapid scalability will drive BPM adoption in SME and non-traditional BPM markets. The emergence of BPaaS and the delivery of business process solutions on demand will enable new revenue models for organizations with process area expertize.

Business Process Management technologies are today moving towards the edge of the organization. The transition of BPM to the cloud represents the next phase of a journey which will eventually deliver process on any device, anywhere.

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