UNDERSTANDING YOUR NEEDS FOR BPM AND APAAS

WHITE PAPER

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Introduction

Today, innovation is on every organizations' mind. You need to digitize internal operations to do things better, faster, and cheaper whilst finding new ways to engage with customers and partners. Most organizations will have already invested in a number of technologies to optimize operations. And utilizing these technologies, wherever possible, increases return on investment. However, it's essential that these technologies also deliver the digital innovation that's required to compete in today's evolving market place.

Recently, we've heard from IT executives who are evaluating BPM technology against a separate application Platform as a Service (aPaaS) solution. This comparison is common but the evaluation should consider 'when is the most relevant time to use each of these platforms' rather than suggesting an organization should just one.

Ultimately, there's a valid place for both technologies. BPM and aPaaS solutions complement one another and serve different means. The key to success is finding the right balance within your own organization.

In this white paper, we'll provide a high-level summary of BPM and aPaaS technologies, highlight the main technical differences and showcase how the technologies can run in parallel.

Understanding BPM and aPaaS technologies

BPM is used to manage, streamline and optimize business processes and workflows. The scope spans both structured, repeatable processes through configurable workflows and automated steps, as well as organizing and managing exceptions.

Built with reusable components and modeling technology, BPM workflows allow users to easily configure step-by-step activities to route content, manage human interactions for unique cases and follow data rules. The technology has evolved over the last decade and has become more widely known as BPM suites, as they now also support different styles of workflows, business rule management, business activity monitoring and techniques for simulation and optimization.

Many in the industry expected BPM technology to become the 'next big thing' after ERP, capable of delivering the complex process applications required to grow the business. But the BPM market has remained a relatively small segment within the greater Application Infrastructure and Middleware Market (AIM), as research firm Gartner defines the larger space.

So why didn't BPM break through into the larger AIM space?

Ultimately, not all applications are created in the same way or for the same purpose. And the greater AIM market represents the larger application portfolio that cannot be satisfied with just one technology solution. This is recognized most often when considering innovative new business applications and the typical barriers to creating these solutions.

Barriers to building innovative applications with BPM technology

BPM technologies tend to focus support around the workflow and it successfully delivers improvements in these areas. However, in reality there are a number of other critical tiers within the solution or application architecture which need to be considered.

Beyond simple forms routing, applications require a mixture of elements across a 5-tier architecture:

- A process layer for the task flow
- A UI layer for the user experience
- A logic layer for expressing business logic beyond process logic
- A data / file storage layer for persistent storage of data and content
- An integration layer to leverage existing applications and services

In our experience, BPM suites provide excellent support for the process layer. Beyond this, however, the level of support across the other four tiers depends on the roots of each respective vendor. For example, vendors that have entered the BPM space with an integration-centric offering typically combine strong support of process orchestration and integration for straight-through processing workflows. Yet, the Achilles heel for most BPM vendors relates to the other layers, specifically the UI support, integrated logic and persistent data layers.

Most vendors offer capabilities for model-driven UI design, however building a more sophisticated and contemporary user interface within a process application to deliver a higher quality experience can require extensive coding. And in some instances, BPM users can only achieve this higher level by circumventing the vendor's UI layer completely.

Process applications require a well-defined object or entity model and support for expressing application logic. While some of the logic may be elevated to be defined and maintained by business experts through a rules management system, object relational mapping and transactional support would require an application server and programming framework to fulfill the needs.

It can, therefore, be challenging to deliver speed through model-driven development in these scenarios. Rapid definition of process models can become compromised with laborious and complex coding, particularly if process models are not 'aware' of data objects and UI pages.

Development of such 4- or 5-tier solutions becomes complex and moreover, lack of consistency checks for the overall solution creates an enormous test burden.

A new use case that requires a new solution

To help grow the business, IT teams are now tasked to build new solutions that extend already successful operations, improve customer/partner engagement and digitize operations. These innovation projects often come with urgent timelines, frequent requirement changes, and evolving use cases. Sometimes referred to as systems of differentiation, these projects may start as extensions to your core systems but often evolve to subsequent additions to your overall application portfolio.

Creating solutions that solve these business challenges rarely have a simple, known solution and more often than not, you need to experiment to refine the application as new market and user feedback becomes known. As you experience these project requests, the use case for a high-productivity application Platform-as-a-Service (aPaaS) technology becomes obvious. aPaaS technology lets users rapidly deliver appealing and sophisticated business applications.

The right aPaaS harnesses the entire application lifecycle within one platform, so that users can control the entire application development process, and ensure speed across each phase. In these instances, it's not a question of replacing your BPM suite, it's recognizing that you've moved beyond the strengths of the technology.

Playing to technology strengths

To further explain the use cases for each technology where there is a need to extend and adapt your core processing systems, we've summarized the key differentiators which highlight how an aPaaS solution can add value.

Extensive support for all application layers

A solid high-productivity aPaaS leverages at least four domain specific languages (DSLs) that are tightly integrated to support rapid application development. These languages provide a human readable way to breakdown the user interface model, domain model, process- and application model, and security model. Like for BPM, these DSLs could be expanded with a dedicated layer for business rules and integration.

These models are all tied together within the application, providing productivity enhancements that far exceed classical BPM suites. This is because the models (e.g. domain model, UI model and logic model) are 'aware' of each other and as a result of the meta-data, know how they can be used in context with each other.

For example, by associating a domain model entity to a Microflow to express application- or process logic, all of the attributes and attributes of associated entities can be used while defining activities in the flow without any laborious mapping of input and output data elements.

Speed

As mentioned above, while BPM platforms offer low-code, visual modeling tools, they are mostly focused on process design and form-type UIs. This offers some efficiency gains, but developers still need to spend a significant amount of time coding application logic and dealing with data persistency beyond the process flows.

Rapid aPaaS solutions require significantly less coding across the four DSLs. By enabling model-driven development across each application layer and extensive consistency checking for functional and technical completeness of the application model, aPaaS solutions enable speed that is unrivalled by any other technology.

Integrated developer and operations (DevOps) experience

BPM suites include a compilation of integrated tools, and so, the life cycle management aspects associated with transitioning from design and development through to deployment and management of applications in production, is not an integrated 'DevOps' experience.

Alternatively, an aPaaS solution covers the complete application lifecycle, including everything from design and visual development through to deployment and centralized application and resource management. This

focus on speed at every stage means that aPaaS enables a more iterative approach which lends itself well for managing systems that rely on frequently changing regulations or market conditions.

For example, by removing barriers between development and deployment, aPaaS offers speed to market. These rapid cycles enable an iterative approach that encourages innovation and enables project flexibility and speed.

Business & IT collaboration

A high-productivity aPaaS also provides a host of features to bring business and IT teams closer together. Through agile project management functions, closed feedback loops for application testing, and visual modeling tools, the ideal rapid aPaaS technology allows less-technical users to understand what's going on behind the scenes and actively participate in the development process.

And by increasing participation and focusing on closer collaboration, you ensure better solutions that fit the exact requirements of your business stakeholders. Through this process, businesses are able to quickly test new projects of differentiation and innovation – and move their business forward faster.

Multi-channel user experience

While BPM tools offer mobile features, typically centered on tasks and alerts, they do not provide the full breadth of functionality required for mobile and multi-channel application

development. True multi-channel, multi-device systems require deep understanding and tools to help manipulate and manage the overall user experience across web, mobile, and tablet interfaces.

aPaaS solutions provide rich frameworks that help users quickly build across any and all channels. Alternatively, a BPM tool relies on custom coding to achieve a similar experience across devices

Cloud services

While some BPM providers now offer cloud services, some archaic architectures were not implemented for the provision of the cloud.

The ideal aPaaS is cloud-native, providing the smallest possible architectural footprint and a high degree of automation for provisioning and application management tasks. Combined, you can reduce the cost and resources required to build and deliver each application.

With these features, organizations are able to elastically scale up and down based on demand, making it easy for a developer to maintain a growing portfolio of applications with varying usage needs.

BPM and aPaaS serve different initiatives

While your BPM tool may seem like an appealing option for your digital innovation initiatives, it most likely lacks a number of functions that are essential for continuing to innovate within your business. The strength of BPM comes from its ability to orchestrate processes as well as efficiently manage human tasks and activities.

Why not use aPaaS as an opportunity to build next to these business process applications to deliver a new layer of application innovation? By integrating the two technologies, organizations continue to have a stable core processing system but with a flexible exterior layer that can evolve alongside your business.

Remember, creating an advanced process capability isn't enough on its own for many projects. For any project of differentiation and innovation, most businesses are satisfied with a 'good enough' workflow which then leaves more time to focus on the ultimate user experience.

Today, process support has become one of many capabilities within application platforms. This is a stark change from making the application subordinate to the process as done through the BPM paradigm.

And for proof, look to the BPM community who continuously repositions as application platform players, recognizing the existing limitations of their current technology and aiming to capitalize on the strengths of existing aPaaS players.

Learn more about the top application Platform as a Service providers: Gartner 2015 Magic Quadrant for Enterprise Application Platform as a Service, Worldwide.

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