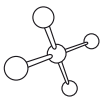
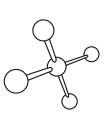


inubit
integrating your business and IT

New Perspectives for BPM

BPM+ Reconciles Process and Data Management

White Paper



inubit
integrating your business and IT

BPM, SOA & Co. have long been regarded as the solution to challenges facing companies.But things are evolving in this area as well. Appropriate, adjusted solutions need to be found to meet new requirements. Hence, BPM must also evolve – and inubit shows how to successfully go down this evolutionary path.

For many companies, the comprehensive automation of standard processes started with the introduction of ERP systems. These systems made it possible to automate "commodity" processes more cheaply than would have been possible through complex in-house developments. Most ERP applications are very data-centric and users have to independently use complex screens to navigate through rather implicit processes. There is no intention of providing more process-controlled user guidance here.

The downstream data analysis, which experts refer to as Business Intelligence (BI), focuses mainly on the result of the process, for example, "turnover by period and product" and less on the analysis of the process flow like the "average cycle time for the order-to-cash process by product and sales channel."

At the same time, many companies standardized the flow of important documents using Workflow Management Systems (WFMS), but these were often only loosely connected to the ERP systems. Only the advent of Business Process Management (BPM) made it possible to develop integrated, process-oriented applications. These then also supported process-oriented analysis, for example, using Business Activity Monitoring (BAM).

Today's projects often face even greater challenges than projects did in the early days of ERP: The aim is to automate and optimize less standardized processes. This is extremely important since these are the processes with which companies set themselves apart from the competition. In addition, these projects have to be integrated into increasingly complex application environments that have evolved over time.

The extended BPM approach, which we call BPM+, must take this into account and offer perspectives for the future. Hence, platforms that support BPM+ must aggregate existing data and be able to efficiently link this data with the data created in the processes. In order to provide user-friendly and efficient user interfaces, we need to use modern web technologies; without these there would be very high development costs in this area. And finally, modern platforms for BPM+ should support all process types from background processing to processes with many user interactions to processes with a strong document focus. We will take a look at the three most important process classes a bit later on before we cover the complementary data perspective.

BPM evolves

- BPM+ enhances classic Business Process Management, which was previously strongly focused on the process perspective
- The holistic view of processes, data and front-ends makes real business solutions possible, providing users with central solutions for their area of responsibility

From Workflow to Process Management

Over the last decade, the workflow management area has evolved into today's Business Process Management (BPM), which focuses on the holistic analysis of business processes. BPM is supported by the lifecycle of process modeling, simulation, implementation, execution and analysis. In addition to supporting user- and document-centric processes from the workflow area, the support of background processing or Straight-Through-Processing (STP), i.e. processes executed without human interaction, also gained significance.

Human Workflow Processes (User Interaction)

Classic BPM initially focused on strongly structured processes with human interaction such as the approval of an application for leave or a purchase requisition. Over the last few years, there have been extensive standardization efforts (e.g. XPDL, WS-FL, WS-Chor), which have recently coalesced into the Business Process Model and Notation (BPMN).

The current BPMN version 2.0 is suitable for describing the business processes and, under certain circumstances, also as the basis for executing processes. It makes sense to use BPM for process documentation and simulation on the one side and, with strictly structured processes specified, for execution in an engine on the other side (executable BPMN or model-2-model transformations).

Integration Processes and Background Processing

In addition to the classic workflow processes, which include employees in decisions and tasks, there is the class of integration processes that are fully automated and executed without user interaction (also called “background processing”). An example of this is the automatic customer credit check that integrates various scoring mechanisms and data sources. Integration processes differ from workflow processes due to their relatively short runtimes and fast transition or wait times

Integration processes can either run in isolation or they can be triggered synchronously. If necessary, various instances are forwarded to a downstream workflow process for manual post-processing, for example, if there is a problem with the customer‘s credit rating. Integration processes are often pre-programmed, which results in a loss of flexibility and makes them harder to analyze so that it is strongly recommended to support them with an engine.

Document-Centric Processes

In addition to executing rigidly structured, i. e. fixed pre-defined processes – be it as a human workflow or integration process – supporting unstructured, typically strongly document-centric processes also plays a very important role. If the process is completely unstructured we also speak of “Collaboration”. But even more rigidly structured processes often have documents as input or output. In the former case, the documents are generated from a process, for example, an invoice to be sent. In the first case, the process can, for example, control the forwarding of unstructured documents such as the processing of an inbound invoice. Scanning and indexing mechanisms are often used here, for example, to automatically forward an inbound invoice to a recipient in the company once it has been detected automatically.

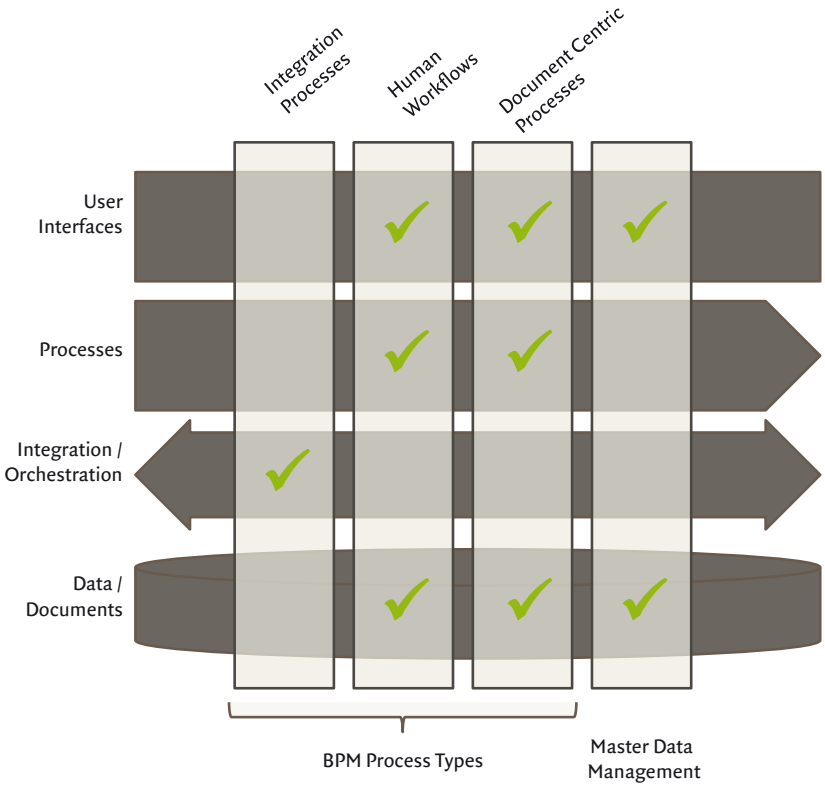
Making Processes More Flexible

The required further increase in the flexibility of processes can be achieved by using business rules and ad-hoc process steps. The business rules enable responsible staff members to directly configure the process flows and decisions of the processes based on process data. This can mean specifying the level of credit after which the principle of dual control must be applied. Ideally, the departmental staff receives the necessary information directly via integrated process reporting. Ad-hoc process steps, which usually refer to part of a process flow, are another way to make processes more flexible. This process flow contains only the possible steps whereby their allowed execution order depends on the linked data.

Hybrid End-to-End Processes

These days, many end-to-end processes cannot be assigned exclusively to one of the process classes described above. Instead,they consist of partial processes, which must be assigned to different process classes.

—> BPM+ supports all three BPM process classes and integrates data management



The following figure illustrates an exemplary application case from personnel management, which contains all different process types:

- Document-centric functions: generation and forwarding of a contract
- User-centric aspects: release of the contract
- Integration processes: automatic update of HR applications that are affected by contract contents

Accordingly, an efficient platform for BPM+ must therefore support the different process classes and their interaction in the context of hybrid end-to-end processes.

Every Process is Only as Good as its Data

In the early days of BPM, many projects focused strongly on process design, usually with the help of BPMN-based models. The further development of classic BPM has now led to BPM+ here processes and data are handled with comparable flexibility, transparency and efficiency.

Master Data vs. Transaction Data

Just as all processes are not equal (of the same type), there are different types of data. The most important rough categorization covers the distinction between master and transaction data. Master data is provided for all processes whereas transaction data is usually created in the process or is of significance in the context of a process instance. For example, in the aforementioned order-to-cash process, both the master data of the customer, such as the customer address and credit rating, and the transaction data, such as a customer invoice with order items and invoice amount, play a central role.

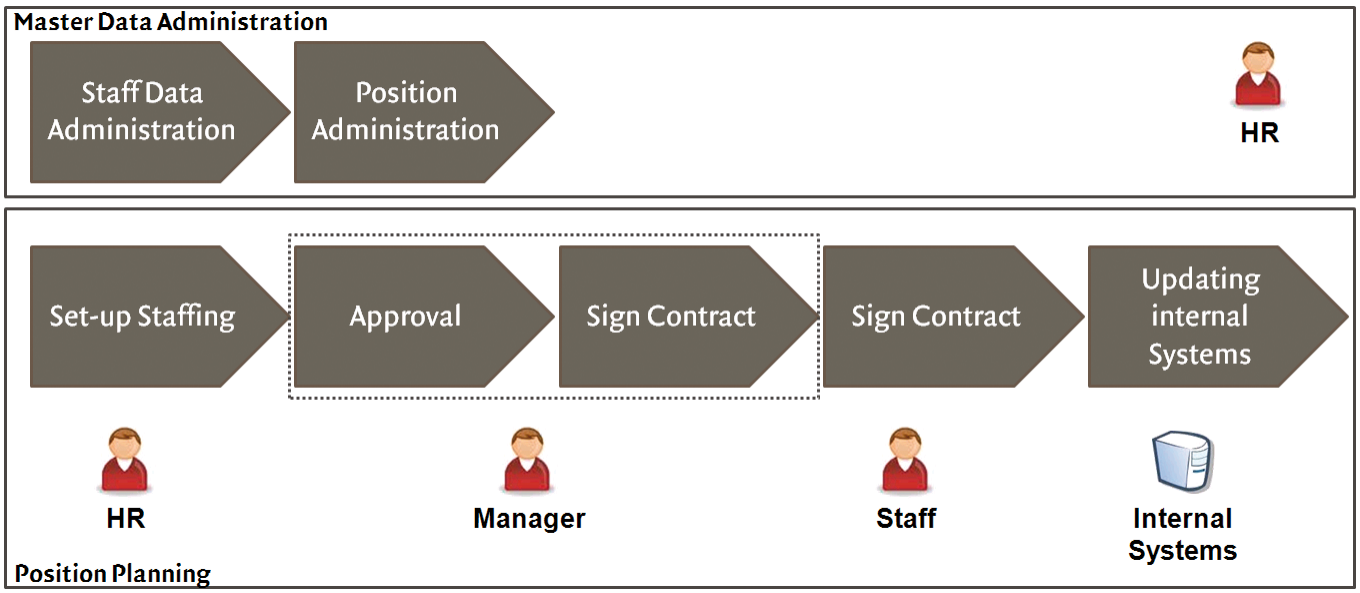
Master Data Management

The maintenance of master data, that is, the entry, editing, searching and retrieval of data is often supported using separate Master Data Management (MDM) solutions. An MDM system must manage and synchronize potentially redundantand inconsistent data across various applications while also ensuring the quality of the data. Of course, it is possible to use BPM-based processes for data maintenance here.

Real Life Example

One example of a business solution based on BPM+ is the administration of filling positions. First, the required functionality for managing employee data and job descriptions must be provided. This part of the business solution is purely data-centric. Following that, the actual process is implemented. In this context, the filling of positions generates transaction data. This data must be linked to the master data. That is, the staffing of a position links a position to an employee and adds additional information, such as the start date. The position staffing process must support the different partial processes, which correspond to the different process classes:

- Entering and releasing new positions in the system is a classic human workflow.
- The generation of a contract and its signing by a manager and the employee himself/ herself is a document-centric process.
- The automatic update of the different internal systems that takes place at the end of the process is an integration process



Data Quality

Master data management can be used to ensure the quality of this important data across several applications. However, the quality of the transaction data also plays an important role. For example, if too much data is requested from the person entering a purchase requisition, this causes too much work for the person placing the order. As a result, data is often entered incorrectly, which in turn causes additional work. If too little data is queried, a query might have to be sent to the process initiator at the end of the process, which is also inefficient. Hence, an efficient solution must guarantee a high level of data quality.

Technical Management of Complex Data

In addition to the data design, the technical management of data is also extremely important. In the development of user interfaces, more solutions are being created in which data objects are mapped to simple forms. Alternatively, completely external visualizations are implemented, which were created in classic programming environments such as .NET or JSF. These environments often also offer support for permanent data storage. However, they cannot make the most of the advantages offered by the BPM approach since the created applications are not process-oriented.

In the BPM+ area, a new type of support for front-ends has thus been developed, which drastically simplifies the complex issue of data transformation for the visualization of business objects. Based on business models, pre-configured components for forms are combined. These components are based on known patterns, such as fact sheets for displaying simple values. By supporting inheritance in the business models not just at the data but also at the UI level, many templates can be provided. This way the creation of typical interfaces can be reduced to a few clicks for configuration. This applies to master as well as transaction data. Process cockpits, dashboards or task lists can be seamlessly integrated into business solutions as preconfigured UI components. Customer or project-specific adjustments remain possible at any time. Modern web technologies such as AJAX are available without incurring the typically very high costs of these programming technologies. This can be ensured using the described abstraction mechanisms of the platforms that support BPM+.

From a business perspective it is of course important that navigation between the process (e. g. purchase order) and its master data (e. g. customer) is transparent for end users of a business solution. For example, you can update the customer data when processing a PO without having to change the application. BPM+ also ensures this.

Data Federation

To display the data in the front-end, the integration of the different back-end applications is also essential. Data can come from various sources: from classic databases and legacy applications, to content management or ERP systems to user and role management systems like LDAP. To manage this data, a holistic view is required, which makes the different back-end systems available via a uniform interface. This principle is called federation. Here, federation goes beyond simple integration mechanisms such as SOA by abstracting not only the complexity of the data retrieval but also the data synchronization from the process developer. This additional abstraction mechanism increases the productivity in development and enables a role-specific procedure in the project.

Business Solutions with BPM+

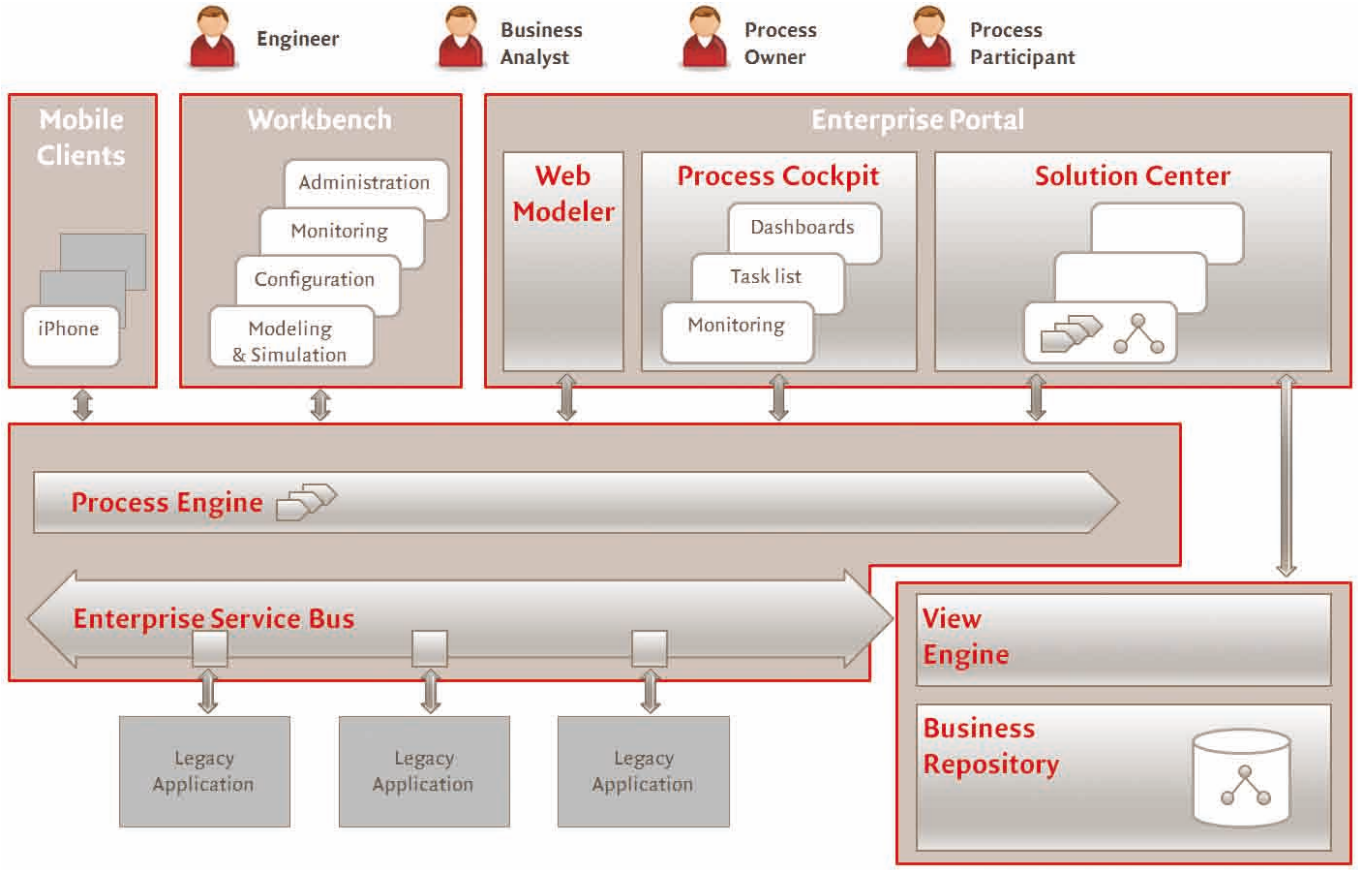
BPM+ makes it possible to implement practical business solutions. In contrast to past applications, which as silo solutions were mostly designed to meet business requirements within departments but were rarely widely integrated and are not set up based on SOA or BPM, business solutions based BPM+ set themselves apart through the following aspects:

- Business solutions focus on end-to-end processes and can be used across different departments.
- The business solution combines process management, user interface and data management.
- The process management of a business solution enables the combination of integration, human workflow and document-centric processes.
- The modular design makes it possible to create new solutions step-by-step, by reusing existing components.

Plan/ Build/ Run Cycle of BPM+

To keep the Total Cost of Ownership (TCO) of a business solution as ideal as possible and to stay significantly below the high costs of in-house development, modern platforms for BPM+ must offer integrated support for the classic plan/ build/ run cycle in an IT organization. Different tools are available for the different roles (business analyst, process engineer, operations manager). In addition, the lifecycle of all artifacts from the development environment via the test and integration systems to the production system is managed efficiently, whereby the process and the data perspective must be taken into account.

—> BPM+ with the new inubit Suite 6: The Process Engine and Enterprise Service Bus take care of the process execution and integration of existing systems. Business solutions (applications) can be created and made available through the Solution Center in the Enterprise Portal while the central Business Repository manages all data and documents relevant for processes and solutions.



It is also important to be methodologically competent in the development of business solutions. In doing so, the methodology used should support an integrated "method" tandemof POAD and SOAD (process- or service-oriented analysis and design), as is the case with the integrated BPM project methodology (IBPM) for example.

Conclusion: from BPM to BPM+

Data and processes: Two worlds come together as business solutions. Business solutions go beyond the classic BPM understanding by integrating all three important process classes – workflow, integration and document-centric processes – and their data even within an end-to-end process. The important thing here is the holistic view of the processes and their data both at the data management level and the front-end level.

BPM+ thus combines the classical data-centric view as it exists, e. g. in ERP systems, with the BPM view of the different process classes and analysis of process execution.

By extending the classic BPM subjects with the areas of integrated data and front-end support, entirely new opportunities arise, which go well beyond the original focus on business processes. The pure process methodology is replaced by an extended context, which makes it possible to create solutions based on the seamless integration of processes, data and front-ends. These solutions make it possible to cover a significantly extended spectrum of everyday company problems. This makes it possible to optimize the company-specific processes that are not (or not cost-efficiently) addressed by ERP and legacy applications. This is of enormous relevance for differentiation on the market.

Dirk Slama, Dr. Frank Puhlmann