



***BizFlow[®] Delivers the
“10 Pillars” Criteria for
Business Process Management
...and More***

***A response to
“Ten Pillars of BPM”
by Tyler McDaniel***

***Published in the
November 2001 issue of EAI Journal***

Executive Summary

In a November 2001 article published in the *EAI Journal*, Tyler McDaniel of the Hurwitz Group succinctly outlined — in the context of “10 Pillars” — the functionality needed within business process management software to successfully deploy business process management solutions.

In his article, Mr. McDaniel states:

Senior management may be prepared to change business processes, but often the IT infrastructure cannot keep pace with change. Both business and IT management will benefit from a flexible software solution for managing business processes. Ultimately, software must [align with] business goals.

For more than 10 years, HandySoft has been a leader and innovator in the advancement of BPM software solutions. HandySoft’s BizFlow product helps companies align their IT activities with strategic business goals through better process management and workflow automation. Supporting standard technologies such as SOAP, UDDI, XML, and WSDL, BizFlow delivers significant, immediate competitive advantage to companies who have discovered the REAL Process Advantage:

- Ready to use, configurable**
- Extensible through SOAP and XML**
- Accelerates productivity across the enterprise**
- Lowers business transaction costs**

Implementing a BPM solution like BizFlow that meets – and exceeds — the criteria described in the “10 Pillars of BPM” article will result in a platform that leverages the current IT infrastructure to achieve corporate business objectives, while also providing the business side with improved process management and collaboration tools. The benefit of technical integration, process management, and collaboration is the ability to rapidly communicate, coordinate, and implement changes affecting current and future business operations. The ability to champion and respond to change ultimately becomes your competitive edge over companies encumbered by stovepipe systems, ineffective process communication strategies, and limited ability to collaborate.

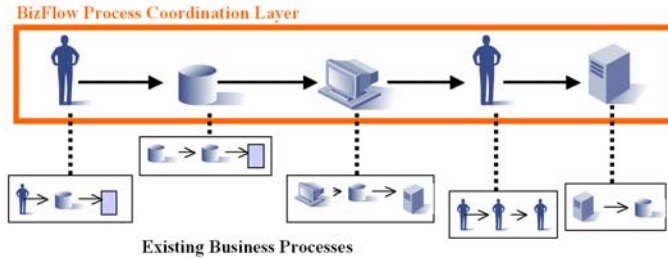
This document provides a synopsis of the “10 Pillars of Business Process Management” described in Tyler McDaniel’s article and describes how BizFlow meets and exceeds these capabilities.

Pillar 1: Unified Process Automation and Workflow Model

Definition

Process models must reflect and integrate both systems and people. One process model that incorporates the entire process — automated steps and human involvement — is essential. The purpose of a single model is to create an ideal, collaborative synergy between people and systems.

BizFlow Feature Set



Business processes – automated and manual — exist within your organization today. The challenge lies in effectively *coordinating* process activities to fully maximize the value of involved people and systems. This becomes more complex as processes span corporate

boundaries, involving external business processes, people, and systems. BizFlow solves these challenges by providing a *coordination layer* that integrates, streamlines, and adds value to existing manual and automated processes.

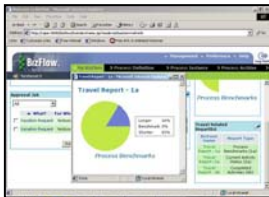
✓ Design Coordination Layer Using Process Designer



BizFlow process models, which integrate technical resources and facilitate collaboration between decision makers and business experts, are built and configured within a graphical user interface. Our Process Designer offers powerful functionality such as sophisticated routing rules, messaging and database adapters, multi-activity parameter setting, a form designer, and global process variables. BizFlow delivers this powerful functionality without requiring programming skills.

BizFlow process designs are clear, clean, and easy-to-follow visually.

✓ Integrate People Using Electronic Forms and Customized Graphical Interfaces



To seamlessly integrate people into processes, BizFlow provides users with the information and web-based tools they need to conduct process-related work. BizFlow supports your existing electronic documents, such as insurance forms or mortgage contracts, in their native format (Word, Excel, PDF, etc). Use BizFlow's Forms Designer to rapidly create intelligent electronic versions of paper documents. Customize user interfaces by creating BizCoves, which encapsulate work and reports for the needs of specific audiences (customer groups, service managers, employees...).

✓ Integrate Systems Using Adapters

BizFlow Process Designer provides messaging, SOAP, and database adapters to integrate front and back office applications and systems (e.g. CRM and ERP systems) into automated business processes with minimal effort. BizFlow solutions include adapters for web services, document management systems, EAI technologies, SQL-compliant databases, COM objects, email and file transfer applications, and office applications such as Microsoft Office. IT professionals can also create their own reusable adapters to proprietary systems.

Pillar 2: Direct Model Execution and Manipulation

Definition

A process model must be dynamically adaptable; changes to the process should not affect underlying technology, nor should changes to underlying technology affect implemented processes.

BizFlow Feature Set

Business processes are rarely static. With features such as check-in/check-out, workflow instance versioning, offline simulation and testing, and web-based process administration, processes can continually be optimized to suit current business conditions without affecting work in progress.

✓ *Process Configuration Management and Workflow Instance Versioning*

Similar to application development tools, BizFlow requires process designers to check in completed work and check out process models before modifications can be made. This ensures that only a single person works on a particular process instance at any point in time, avoiding overlapping development efforts. Workflow instance versioning means that work-in-progress is not interrupted when modifications are made to process definitions. Likewise, a single instance of a process may be modified without affecting prior or future invocations of the “parent” process definition. For example, an activity may be modified to update a relational database instead of a legacy system. If the activity is modified only for a single process instance, then prior and future invocations of the parent process will continue to update the legacy system. If the activity is modified within the parent process, then instances invoked prior to the change will execute unaffected by the change (updating the legacy system); future instances will update the relational database.

✓ *Ad-Hoc Routing*

BizFlow’s ad-hoc routing provides the ability to dynamically change conditional variables such as who, what, where, when, and how during runtime. At any given activity, a person or system has the ability to evaluate process conditions (defined or undefined) and then select alternative execution paths, recipients, forms, time constraints, security restrictions, and so forth.

✓ *Simulation and Testing*

When publishing process definitions to the BizFlow engine, choose from one of four possible states to identify its “readiness”: Editing (still in development), Testing (simulation mode), Published (in production), and Suspended (disabled). In Editing mode, use BizFlow’s Process Verifier to identify missing components, such as an activity without a participant assigned to it, before full simulation is conducted. When published in Testing mode, conduct simulations of the process flow to identify and correct bottlenecks, optimize design, and obtain benchmarking statistics, such as expected time to completion. Once in production, use the Process Analyzer’s Benchmark Report to compare simulation tests against actual processing times.

✓ *Web-Based Administration and Exception Handling*

Access process definitions via the web for 24/7 process administration and exception handling. BizFlow provides the ability to delegate multiple administrator capabilities to fit the permission and security structure of the enterprise. Managers of a certain department could be given permissions to modify and disable definitions specific to their work environment, while restricted from others.

Pillar 3: State Management

Definition

The BPM solution must keep track of the states of all processes, regardless of their length, complexity, or current status. Maintaining current and historical state information will enable identification of problems, bottlenecks, added optimization, and greater return-on-process efficiency.

BizFlow Feature Set

✓ *Audit Trail Monitor*



BizFlow’s Audit Trail Monitor provides a graphical depiction of a workflow process in progress. Color-coded icons show at a glance the status of a workflow at any point. Detailed information showing “who, what, when, and where” is presented in tabular format for immediate reference. The Audit Trail Monitor is readily available to users at all times, providing important process details such as: status of requests, date/time requests were received or due, request urgency indicators and priority levels.

✓ *Reporting Tools*

BizFlow supports Benchmarking, Status, Workload, Throughput Trend Analysis, and Ad-Hoc Process Search reporting capabilities, supporting diverse information needs – from executive level reporting to technical support troubleshooting. Create custom graphical reports within BizFlow or export report and/or process metadata to Excel, RDBMS, or OLAP cubes for assimilation into advanced reporting tools, such as Crystal Reports. *See Pillar 5 for additional information on BizFlow reporting capabilities.*

✓ *Process Variables*

BizFlow process variables provide real-time dynamic state change, tracking, and management. Process variables can be defined as multiple types (string, number, date, etc.); support for type “array” supports multiple values over multiple dimensions.

✓ *Wait Activity*

External and BizFlow sub-processes may be invoked asynchronously, meaning that BizFlow doesn’t need a response to continue forward, or they may be invoked synchronously using a Wait activity to control the response based on Time or Trigger rules.

Pillar 4: Time-Based Exception Management

Definition

Strong exception-handling capabilities are needed to adequately cope with the dynamic nature of business. Furthermore, business relationships could be jeopardized because of missed deadlines or untimely responses. A BPM solution must be able to intelligently coordinate time rules with exception handling.

BizFlow Feature Set

More often than not, exceptions to the desired execution of a process become the “norm.” Flexibility and timely attention to exceptions is important, impacting customer satisfaction and, ultimately, your bottom line. BizFlow features such as validation, notification, activity prioritization, deadlines, and escalation provide your organization with the ability to react quickly when problems occur. Creating structured processes designed as best practices, building in time-sensitive exception handling procedures, and carefully monitoring benchmark and status reports enable you to *proactively* predict, detect, and fix problems before they become obvious to the customer.

✓ *Built-in Exception Handling and Validation*

Because BizFlow supports nested process construction, process designers can build and embed reusable exception handling processes right into the process design. This keeps a process moving, even when flow is diverted to handle problems such as an offline system. Built-in exception handling also ensures that process flow continues after a problem has been addressed. Validation scripts embedded into process flows can prevent many errors from happening in the first place.

✓ *Notification Features*

Timing is critical, especially when dealing with problems. E-mail activities, process triggers, or error-handling agents inserted at crucial status points can notify the appropriate person or system or automatically activate a corrective procedure when problems occur. Instant notification through BizFlow “alerts” is also possible when BizFlow is active on the desktop.

✓ *Deadlines, Escalation, Re-Routing*

Notification of pending deadlines, with escalation options such as work re-routing for missed deadlines, prevents delays and keeps work progressing forward. Features such as roles, workload balancing, calendars, and alternate participants ensure that work is sent to the person or system most likely to complete an activity or address an exception accurately and on-time. Tasks and routes can also be monitored, timed, and escalated by using the wait activity and/or parallel route.

✓ *Prioritization*

Preventing problems is often as simple as communicating deadlines or urgency information. BizFlow makes this information easy to view by all participants. When someone initiates an activity such as a service request, s/he can identify special and/or emergency requests by labeling them as “urgent” with a simple click of the mouse. The recipient of an urgent request sees the item highlighted in his/her Inbox, alerting them instantly to items of importance.

Pillar 5: Robust Process Monitoring and Analysis

Definition

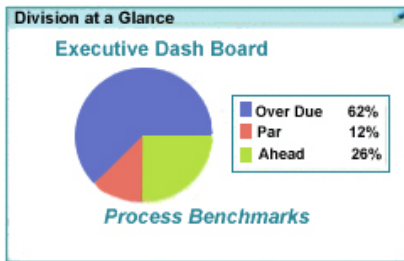
Immediate knowledge of how moving processes are affecting performance provides the critical means for improvement. Sound decisions rely on the ability to react and support new processes, change existing processes, and terminate faulty processes.

BizFlow Feature Set

✓ Reporting Tools

BizFlow's simulation and reporting capabilities, coupled with its open data architecture, helps your organization:

- Capture the current cost of performing activities
- Target high cost activities
- Provide a context for establishing and monitoring performance measures
- Provide the link between activity modeling and economic analysis
- Forecast financial baselines

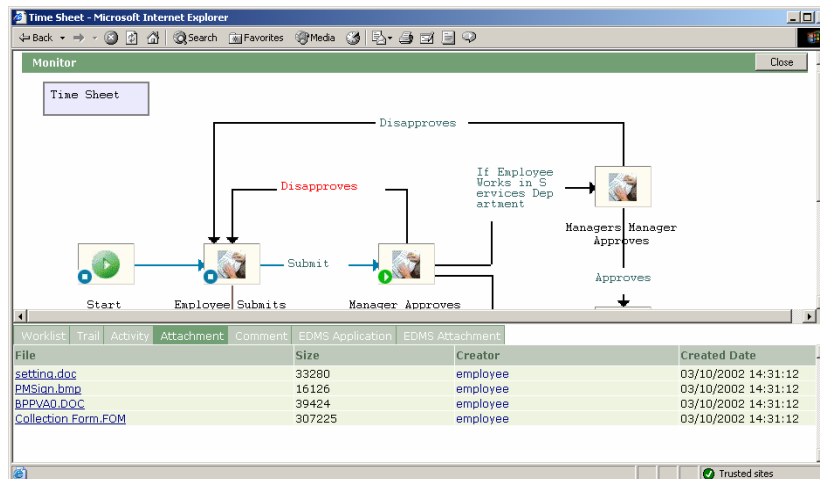


BizFlow supports Benchmarking, Status, Workload, Throughput Trend Analysis, and Ad-Hoc Process Search reporting capabilities, supporting diverse information needs – from executive level reporting to technical support troubleshooting. These reports categories provide point-and-click report generation wizards that produce adaptable ad-hoc, graphical, and data export capabilities through the web browser. BizFlow supports drill-down from a high-level

process view to an individual activity level. Reports and process metadata can be exported to Excel, standard RDBMSs such as Oracle and MS SQL Server, or even as OLAP cubes for assimilation into advanced reporting tools, such as Crystal Reports.

✓ Graphical Process Monitoring

BizFlow provides real-time process monitoring to all participants in the workflow. This includes a graphical view of the process map while a process is running, with drill-down to individual activity level. Color-coding shows a history trail and current status quickly. Authorized users can also view history and activity logs.



Pillar 6: Nested Model Support

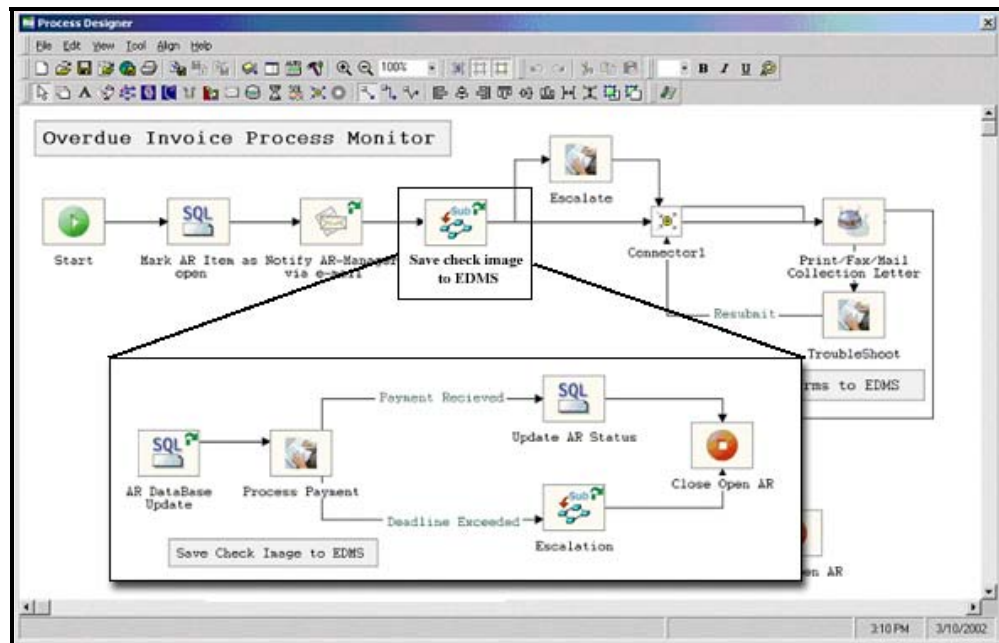
Definition

The BPM solution must support the use of sub-processes in coordination with and subordination to a larger, controlling process. This gives process owners more granular control over their individual sub-processes and gives executives an abstraction away from complex sub-process details.

BizFlow Feature Set

✓ *Nested BizFlow Processes*

BizFlow's Process Designer enables a process designer to link in supporting BizFlow process definitions as subflows. For example, an order fulfillment process may embed departmental-level processes such as logistics coordination, inventory management, and accounts receivable. Corporate-level processes acknowledge and manage the coordination of work between departments and/or organizations, while sub-processes enable finite process control by the process experts themselves.



Sub-processes can be initiated in synchronous or asynchronous modes, manually or automatically. Variables, attachments, and comments can be passed from higher-level processes. Process monitoring tools provide administration of an entire process, even those spanning corporate boundaries, regardless of the number of sub-processes involved. For enhanced performance, BizFlow supports nested processes across BizFlow server clusters.

✓ *Nested External Processes*

Utilize the existing processes found in legacy and enterprise systems using BizFlow's queue, messaging, and other adapters, which enable the invocation of sub-processes existing within other systems. External processes initiated through BizFlow may execute in an asynchronous manner; alternatively, they may pass results back to BizFlow, which is controlled through BizFlow Wait activities.

Pillar 7: Concurrent Model Support

Definition

No business runs on a single thread of processes. A BPM solution must be able to support concurrent or parallel process models that can execute independently, but also be able to join for full completion of a given process.

BizFlow Feature Set

Business processes are rarely linear. Typically, a process will consist of several manual and automated sub-processes executing simultaneously. These sub-processes may have a variety of overlapping dependencies, iteration and decision points, and execution path splits and convergences. A sub-process may, at times, act as a stand-alone process and it may be incorporated into one or more higher-level processes. A sub-process may exist internal or external to the BizFlow environment. Regardless of its complexity, an executing process should be a unique entity that can be changed on the fly without impacting prior or future process instances. BizFlow provides a flexible, adaptable, powerful process management platform through support for complex routing rules, sub-processes, process variables for data passing, agents and wait activities for external process execution, and process instance versioning to control changes.

✓ *Complex Routing Rules, Splits, Joins*

Complex routing rules provide the ability to split a path of execution in two or more parallel branches based on data values or business rules. Separate paths of execution may (or may not) be joined at particular points, with the ability to merge data results from each path. For example, an insurance form may have several parts to be filled out by different people. The work may be divided into parallel execution paths and then consolidated into a single document upon process flow convergence.

✓ *Sub-Processes and Process Variables*

A process can contain a virtually infinite number of sub-processes that may be initiated in synchronous or asynchronous modes, manually or automatically. Process variables provide the ability to pass data in and out of sub-processes.

✓ *Agents and Wait Activities*

Many automated processes exist external to the BPM environment. For example, ERP and CRM systems such as SAP or PeopleSoft contain specialized process solutions that address very specific departmental process needs. BizFlow enables you to leverage these existing automated processes using Agent activities. External processes may be invoked asynchronously, meaning that BizFlow doesn't need a response to continue forward, or they may be invoked synchronously using Wait activities to control the response based on Time or Trigger rules.

✓ *Process Instance Versioning*

BizFlow supports process instance versioning, which is the concept of individual process instances for every parent process definition invocation. This provides the ability to make process definition changes without hindering work in progress. It also provides granular control over specific instance-related data. Process instance versions execute independently of each other, minimizing the impact of a process-halting error such as an offline system.

Pillar 8: Standards-Based

Definition

BPM is a strategic layer that must work in coordination with the entire enterprise architecture, including systems external to an organization's immediate control. Standards compliance ensures that the BPM solution can support and work seamlessly with an organization's application integration layer...and easily extend support for external systems.

BizFlow Feature Set

✓ *Support for Business Process, Object-Oriented, and Engineering Modeling Standards*

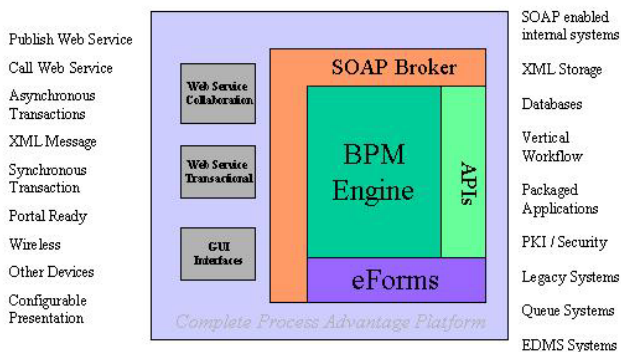
BizFlow is based on the standards set by international business process management and workflow organizations:

- Workflow Management Coalition (WfMC)
- Workflow And Reengineering International Association (WARIA)
- The Business Process Management Initiative (BPMi)
- Universal Description, Discovery and Integration of Business (UDDI)

BizFlow supports internationally recognized workflow and BPR standards such as the *Workflow Standards Framework*, the goal of which is to enable multiple workflow products to coexist and interoperate within a user's environment. Through support for web services technologies such as XML and SOAP and supporting the Workflow Management Coalition's Wf-XML standard, BizFlow enables real-time collaboration with alternative BPM process engines.

To reduce the cost and time associated with training new methodologies, BizFlow provides features that support traditional modeling paradigms such as: IDEF Process Mapping, Cross-Functional Process Mapping & Context Diagrams, Unified Modeling Language (UML), Petri Net modeling functions, MS Project (including Gantt chart) integration, and Stage-Gate Process.

✓ *Support for Interoperability Standards*



Through support for standards such as PKI, XML, SOAP, Wf-XML, UDDI, and Web Services Description Language (WSDL), businesses can quickly and easily find and transact business with one another using their preferred applications.

Pillar 9: High Scalability

Definition

A strong BPM solution will scale horizontally in terms of handling extended process times and vertically in terms of a high number of processes running concurrently.

BizFlow Feature Set

✓ *Scalability and Performance to Handle Mission-Critical Business Processes.*

BizFlow's scalability and performance has been proven in customer deployments and independent testing scenarios. In one test situation, a single dual-processor server running the BizFlow Server, Web Server, and database handled more than 60,000 activities per hour and over 600 simultaneous users (3,000 named users if the normal 5:1 ratio is used). These numbers illustrate the success of BizFlow in meeting the performance and scalability requirements of one customer's expected deployment scenario. Testing stopped at this point and was not designed to max out BizFlow's performance or scalability. Achieve almost unlimited scalability by adding additional processors or machines or by clustering servers. BizFlow runs on Windows and Unix platforms.

✓ *Tested for Global Scalability*

BizFlow was recently independently tested by TRC, a Perot company, during its enterprise solution selection process for a financial/insurance company. Ultimately, the enterprise solution chosen had to accommodate 10,000+ users and integration of internal systems. BizFlow's performance and scalability during the aggressive testing proved better than 12 other workflow and process management products.

Pillar 10: High Reliability

Definition

Because BPM is central and strategic, the solution must have automatic failover and ensure the integrity of transactions between the BPM system and underlying integration system.

BizFlow Feature Set

✓ *Reliable, Robust Performance*

When you trust your mission-critical business processes to a BPM tool, you expect reliability. BizFlow has demonstrated the ability to complete over 60,000 simultaneously queued activities per hour in a single worklist. (Note that a single activity may consist of many underlying transactions.) This number can be increased through server clustering and/or the use of higher-end machines. The BizFlow engine continually holds flat response patterns, regardless of the number of actions sent for processing. BizFlow also reliably handles network and other externally caused interruptions without data loss or corruption; processes continue to execute successfully once an environment is stabilized.

✓ *Failover through Clustered BizFlow Servers*

Failover features in a clustered BizFlow server environment ensure that processes remain operational – eliminating data corruption and reducing data loss — even if one or more servers are not operational. In a global deployment with multiple clustered BizFlow environments, processes transactions between sites can be configured to ensure integrity and automatically failover to other servers, processes, or site locations.

✓ *Transaction Integrity through Auditing*

The integrity of transactions with underlying systems can also be tracked, with both synchronous and asynchronous communication. Timeouts and failure codes from the underlying system can be received and logged in BizFlow. This information, used as BizFlow process variables, can trigger failover processes and sub-processes, alerts, escalations, rules-based events, re-transmissions, and queries for more information to underlying systems. This information can also be displayed in BizFlow's configurable interface, including reports, search lists, graphical process maps with flagged activities, and tabular views with drill-down capabilities.

Conclusion

Businesses of all sizes continue to align their IT systems in support of corporate goals, with a larger view toward automating their business processes. But such efforts can only succeed if the solutions they deploy meet the fundamental criteria of business process management in the era of Web-enabled commerce.

HandySoft believes that BizFlow meets and exceeds the criteria set forth by Tyler McDaniel in “10 Pillars of Business Process Management” and spelled out in other industry journals and reports. Its completeness, ease of use, scalability, and adherence to standards makes BizFlow the leading choice for workflow and business process automation.

For more information, please contact HandySoft:

Telephone: **1-800-753-9343**
E-mail: **info@handysoft.com**
Web: **www.handysoft.com**