



Automating Workflows
Integrating human and system functions

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Summary

The Workflow Foundation

It's all about consistency. That's the way it has been forever. You can win the battles, but it doesn't matter unless you win the war.

—Jeremy Mayfield

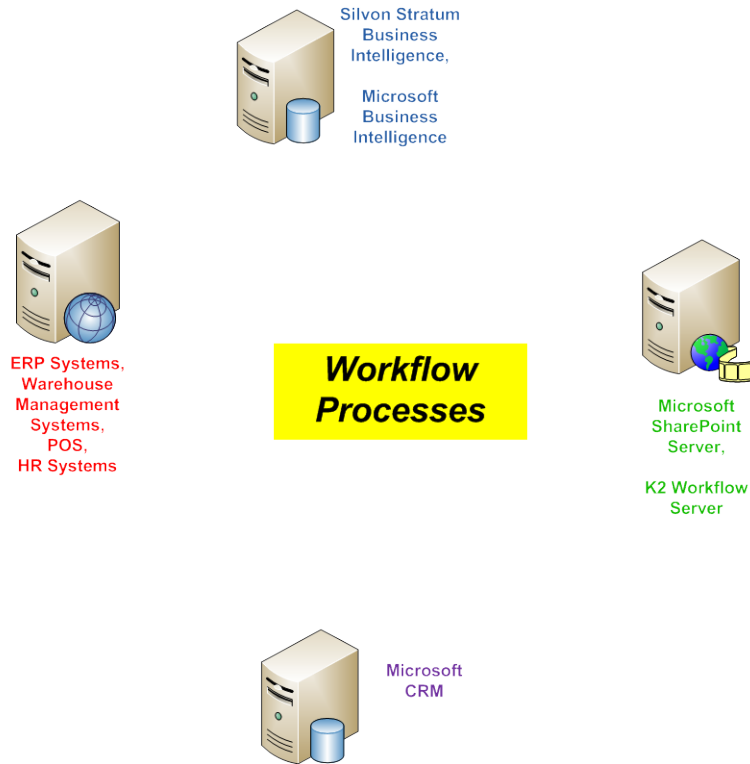
E-mail and spreadsheets are so easy to use that most of us assume that they are an efficient way of organizing and recording work. Similarly, the personal contact we get from meetings gives us the feeling that they are the most effective way to collaborate. However, in a company with more than just a handful of employees, the number of times requests are forwarded and escalated, the number of follow-ups, and the repetition of questions can easily add up to tremendous hidden costs, as well as frustration for employees, suppliers, and customers. E-mails, meetings, and conversations cannot be classified, sorted, and analyzed by project, task, or a resource group for tracking, auditing, and reporting purposes. Completing a work process requires that various people follow a predefined procedure, track their time and budgets, and capture all project information. These goals cannot be achieved cost effectively without using software that is specifically designed to manage work processes. The lack of a well-defined structure for guiding people through processes results in redundancies, inefficiencies, and mistakes.

The workflow foundation drives, manages, and streamlines the flow of all project, workforce, and financial processes. The workflow foundation automates many everyday work processes. This process automation enables executives to securely collaborate in real time with every member of the management team and all project contributors. Workflows also reduce the need for written procedures, follow-ups, and meetings. Training new staff on corporate policies and best practices is much faster and easier with self-service workflows and visually designed processes that guide new employees along the way—all of which leads to a significant reduction in mistakes, repetitive work, and administrative overhead.

A workflow management system completely defines, manages, and executes business processes using software. The sequence and progression of the work process is driven by the computer representation of the workflow logic. In an organisation in which all staff is experienced and accustomed to the common way of doing things, problems may have become *invisible*. As long as the procedures don't change and the staff remembers them, this flow may continue without a glitch. However, in today's fast-changing business environment, even companies with well-established business models and processes need to reexamine, redefine, and reengineer themselves constantly to remain efficient and competitive—this means *doing things differently*.

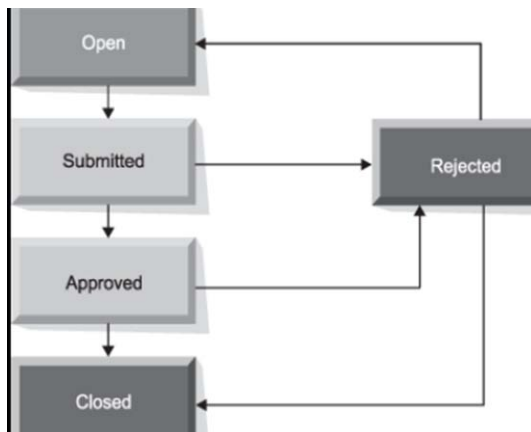
Traditional methods of documentation and staff training run the risk of having newly defined rules, policies, and methods that are not well understood or followed. Resistance to change might emerge because the staff is used to doing things the old way. These problems are only amplified in today's fragmented and remote workforce, where employees and project contributors can be anywhere, and in a highly regulated environment where companies face new compliance challenges. If a standard enterprise wide workflow system is used to manage projects, which is also linked to financials, and if that same workflow system guides the workforce through the proper steps to enforce the policies as well as audit the activities, then the results will be more predictable.

Our vision for SharePoint, Business Intelligence and Workflows



In the diagram above, reports and alerts are generated from the Business intelligence solutions installed at client site, those reports and alerts are then processed through the workflow engine, where a predefined and determined course/s of action are then put into action.

Figure 7.1. A Simple Workflow



In summary, a workflow system provides:

- Work items, a to-do list
- An entry form that represents the task
- A graphical representation of the workflow
- A process that guides the user through the steps in the workflow
- A mechanism to assign, search, and report on the work items

Main Components of a Workflow System

A workflow system used to automate people-, project-, and financial-related processes has the following capabilities.

Departmental Workflows

Classify and sort workflows by department since different types of workflows are designed and used by each department. For example, sales team, service organization, IT, engineering, R&D, billing, and other departments have their own set of workflows.

Roles

Roles define functionality and data access privileges in a workflow system. For example, managers need the ability to assign issues to team members, or a CFO may need to approve purchase requests of a certain amount. Roles are also used by the system to send notifications to a group of users based on predefined conditions. For example, an organization may want to notify critical issues reported after hours to on-call users who have the responsibility of supporting such customers.

Creating Queries

Queries search the database for workflow entries that match certain criteria such as the workflow entry:

- Has priority equal to, less than, or greater than a certain priority level
- Is of a certain type, such as scope change request, project issue, risk report, and so on
- Is created or originated by certain individuals or customers
- Is in a specific state, such as open, deferred, or rejected
- Is assigned to certain users, roles, or teams
- Is associated to a project or task
- Was created within a date range
- Contains certain keywords in the workflow entry text
- Certain values are set for user-defined fields

Visualizing the Flow

It is essential for users to visualize the workflow's diagram including transitions and the overall process flow. The graphic representation of a workflow helps end users understand a workflow entry's status, path, and progress; and visually explains the processes and roles to all participants. A picture is indeed worth a thousand words; without a visual representation, it is much harder to design a workflow and to communicate it.

Handling Exceptions—Conditional Routing

Escalation rules can be defined for any work process to notify process managers when certain workflow entries are neglected and make sure they are handled in a timely manner. The following are some examples:

- An SLA has been established between the customer and the company. Workflow software can be used to ensure that all issues are resolved within the guidelines of the SLA. For example, a priority 1 issue has to be looked at within 24 hours of being reported. Workflow software escalates the issue to a manager if there has been no activity on the reported issue within 12 hours of creation.
- If a deadline is about to be reached and a request has not reached a final state, then the request is escalated to a designated person(s) prior to the deadline.

- When a budget is exceeded for work related to a workflow entry, the assigned user and the manager receive a notification of the exception.

Organization and work breakdown structures[3] simplify the definition and automation of escalation rules. For example, if a priority 1 issue is not responded to in one business day then escalate it to the support manager; if timesheet is not completed by Friday at 5 P.M. then escalate it to the user's group manager; if scope change impacts the project schedule then escalate it to the project manager, and if it impacts the budget escalate it to the CFO.

Assignments and Notifications

An assignment rule is logic that automatically assigns a task to a specific role or user when a workflow reaches a given state. Depending on the severity or urgency of the matter, different methods of notification can be used to inform users of their new assignments. For example, if the state of a workflow requires emergency attention,

the assignee could receive a text message by cell phone; otherwise, a simple e-mail or notification on a work dashboard is sufficient.

Organization and work breakdown structures are instrumental for setting up assignments and notifications, because they define the relationships between people and groups. Effective assignment rules are closely based on these structures. For example, automatically assign all IBM projects' issues to the IBM Support Group, assign all small customer projects to the online execution team.

Parallel and Sequential Processes

Many processes do not have to occur sequentially. Workflow systems support the concept of a *subworkflow* as a transition from a given state. The following are examples of subworkflows and their applications:

- When any one reaches any final state in the subworkflow, transition to the next state. For example, multiple assistants receive a request to send a package; any of them who is available can send the package and the request is marked as completed.
- Specific subworkflows must be completed before the next state can be reached. For example, project proposal needs to be approved by at least the CEO and the CFO; COO's approval is optional.
- If one or more of the subsequent states fail, transition to another state. For example, project proposal needs to be approved by at least the CEO and the CFO. COO approval is optional; however, if the COO rejects, then the project has been rejected.
- All the subworkflows must be completed successfully before the next state is reached (for example, project proposal must be approved by the CEO, the CFO, and the COO).

Configurable Workflow

A company is likely to quickly outgrow the feature set and template processes offered out-of-the-box by the workflow system. Allowing users to define their own workflows, user-defined fields, form design, triggers, notifications, and roles makes the application configurable enough to adapt to the company's changing needs without custom programming.

Linked Flows

One type of workflow can often trigger the creation of or activity in other linked workflows. For example, when a service visit work process is completed, the system can create a billing workflow so that an invoice is prepared and sent to the customer for the service order, or a risk report workflow entry results in one or more scope change requests that are initiated to address the reported risk.

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Customer Access

Customers can have access to the workflow processes in a controlled manner so that they can see the status of their projects and requests. Self-service access to the workflow's dashboards, reports, and even the workflow entries themselves, creates a valuable opportunity for customers to collaborate closely with the company. This self-service facility avoids repetitive questions, unproductive status inquiry calls, and allows customers to report and track issues and requests at their own convenience.

Process Risk Management

Operational risk is defined as the probability that one or more processes will either fail or consume excessive resources. These deficiencies then lead to inconsistent performance, higher costs, loss of business opportunities, or lower revenue. Operational risk is an inherent property of any business process; however, quantifying the risk's financial cost is difficult.

To manage process risk, the company should:

- Systematically identify operational risks in every business process,
- Document the source of the risk,
- Estimate the risk's financial consequences (quantify the cost of the risk),
- Determine cost effective measures to mitigate the risk, and
- Incorporate risk management in the design of the business process.

The workflow system's exception management features (such as conditional routing, alerts, and notifications) as well as a well-designed business process can substantially reduce or at least contain operational risk

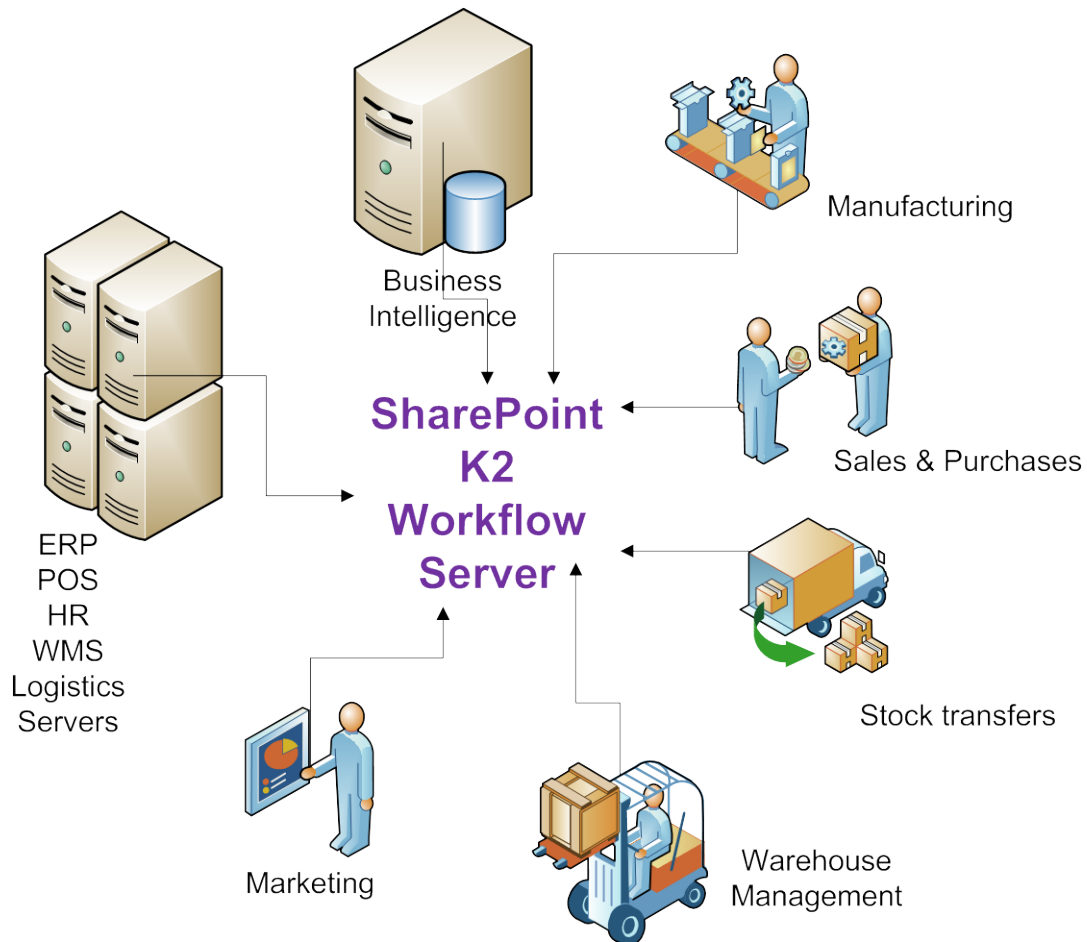
Alerts

such as a forecasted event, sales promotion, rebates claim, suppliers supply deadlines, just in time facilities for example can be broken down into workflows, which department would look after what section of that workflow, what sign off process needs to happen. Does the process need to be able to be audit traceable (say in the case of fast moving perishable goods, meat, dairy products etc) All these things need to be considered when mapping workflows. The interesting thing about workflows is that they change as a company moves through its own lifecycle, for example a young company will have few staff, and that means that multiple processes are covered by a small amount of people, tighter integration means that inherently a quality process is going on while the workflow is in progress. When companies become larger, and the need for more competitive pricing becomes more prevalent to win sales, the need to automate becomes more pressing.

“SharePoint aims at filling the collaboration white space between systems, people and business users across organizational boundaries through integration, collaboration and personalization”.

SharePoint will allow organisations to create collaboration applications for focused audiences and for specific purposes.

1. Customer, employee, partner, supplier focused
2. Product, project, topic, and issue related with the help of focused sites or better content management/tagging
3. Applications include customer services, discussion boards, knowledge management, enterprise search, and document libraries



The above diagram illustrates the Integration of report generation and predefined alerts generated from Business Intelligence and then acted upon by workflows within SharePoint and K2

Conclusion

Masai has been involved in Business Intelligence since 1992 and has delivered information via SharePoint for a number of years. We have recently also become involved in Implementing workflows from reports that come from BI, such as forecasting events and correctly estimating stock levels, coordination of marketing events and gathering materials to site to ensure a successful outcome etc. Workflows come in to every operation within an organisation, and outcomes are reported, thus, every report, workflow and outcome are intertwined.

Our partners below are the best of breed in these areas.

