

Glossary

ActionWorkflow

ActionWorkflow is a workflow management system which concentrates upon the co-ordination of people.

Activity

An activity is the carrying out of an assigned task. In contrast to a task, an activity is related to a specific case.

Synonyms:

- task instance;
- transition firing;
- operation.

Actor

An actor is a person, machine or organizational unit which is directly or indirectly involved in carrying out work. An actor 'performs' as a contractor and/or a subcontractor.

Synonyms:

- player.

Ad-hoc workflow

In general, many different cases involve the same business processes. However, in certain cases it is necessary to modify the process for a specific case. We refer to this as an ad-hoc workflow.

AND-join

An AND-join is a task which may only be carried out once certain conditions have been met. We can compare an AND-join with a stage in assembly which can only take place once all the necessary components are available. An AND-join is applied at the moment when several parallel workflows need to be synchronized. Using the AND-join, it is possible to coordinate various parallel workflows for a particular case.

Synonyms:

- join;
- rendezvous;

- synchronization task.

AND-split

An AND-split task is the logical opposite of an AND-join task. Carrying out an AND-split results in more than one parallel workflow being created for the same case. We can also say that an AND-split divides a case into various parts which can be worked upon simultaneously.

Synonyms:

- split;
- fork.

API

API stands for Application Programming Interface. Most workflow management systems offer APIs for the integration of that system with other applications. In the workflow management context, we also sometimes refer to WAPI (Workflow Application Programming Interface) rather than API.

Application

A workflow management system only controls the logistical aspects of a case. Its content is usually supported by other tools, such as word processors and calculation programs. We call these tools applications. The performance of a task for a particular case can lead to the opening of an application. In this way, separate applications can be integrated by the workflow management system to form a single whole.

Synonyms:

- external program;
- tool.

Application data

This is the data which is used by external programs, rather than being managed by the workflow system. The latter cannot therefore access this data directly. It can, however, be accessed indirectly through the case attributes and the applications themselves.

Architecture

The architecture of a (workflow) system is its structure in the form of components and the way in which they interact with one another (interfacing). This structure is often hierarchical, with a distinction being made between the functional and technical infrastructure. The functional architecture is based

upon the structure of the logical components in the system. The technical architecture refers mainly to its hardware and software components.

Assignment

An assignment is described in a specification, which clearly states which tasks must be carried out to complete a particular case, and in what order and within what timeframe they must be performed.

Synonyms:

- commission;
- order.

Audit trail

An audit trail is an electronic archive in which the history of a workflow is recorded. It contains various details about each case, such as starting time, tasks performed and resources allocated.

Synonyms:

- log file;
- trace.

Business process

A business process is one focused upon the production of particular products. These may be either physical products, such as an aircraft or bridge, or less tangible ones such as a design, a consultation paper or an assessment. In other words, the 'product' can also be a service.

Synonyms:

- Work process.

Business process re-engineering

Business Process Re-engineering is the fundamental reconsideration and radical restructuring of business processes in order to achieve drastic improvements in costs, quality and service.

Synonyms:

- BPR;
- business process redesign;
- business regeneration.

Capacity planning

Capacity planning determines how many resources are allocated to which resource class during a particular period. Because the range of cases is often

subject to seasonal influences, weekly patterns and other fluctuations, capacity planning concentrates mainly upon finding a balance between the resources required and those available.

Case

A case is what a workflow management system is designed to control. We can also regard it as a 'product in progress'. Examples of a case could include an insurance claim, a mortgage application, a tax return, an order or a course of treatment in a hospital. Each case has a unique identity. Moreover, a case is always at a particular stage of development at any given moment.

Synonyms:

- case;
- project;
- deal;
- product;
- service;
- process cycle;
- assignment;
- workflow instance.

Case attribute

The way in which a case progresses through the workflow process depends upon its specific characteristics. Various attributes can therefore be identified for each case. An activity may change the value of these attributes. Naturally, a case only draws upon its own attributes. These attributes are used to 'route' a case. For example, a decision resulting from an OR-split may be based upon the associated case attributes.

Synonyms:

- operational parameter;
- case variable.

Case manager

A case manager is a person who is responsible for the handling of a whole case or a set of several tasks for the case.

Case state

At any point in time, a case has a particular state which is determined by those conditions which have been met and the values of the associated case attributes.

Case type

Similar cases belong to the same case type. There is a one-to-one correspondence between case types and processes. In other words, precisely one process definition belongs to each case type.

Computer-Supported Co-operative Work

Computer-supported co-operative work (CSCW) is the collective name for the methods, techniques and systems which support the co-operative performance of work. Groupware products as well as workflow management systems fall under this heading.

Condition

Before a task can be performed as part of a particular case, that case must fulfill certain conditions. A condition is therefore a necessary requirement which must be met before an activity can take place. Once all the conditions for a task in a particular case are met, that task can be carried out.

Synonym:

- place.

Contract

A binding agreement between a contractor and a subcontractor.

Contractor

A (sub)contractor is a 'resource' who/which is responsible for a process and carries out the activities ordered by the principal. Note that it is also possible for a contractor to act as a principal by subcontracting other resources.

Synonyms:

- subcontractor;
- process owner.

COSA

COSA is Software Ley's Petri net-based workflow management system. See <http://www.cosa.de>.

Critical success factor

A critical success factor is a (verbally expressed) parameter of a process or system that plays a key role in the performance of that system or process.

ExSpect

ExSpect is a Petri-net-based simulation tool. See <http://www.exspect.com>.

Groupware

Groupware is the collective name for software products which enable groups to co-operate. The term groupware is closely related to CSCW (computer-supported co-operative work). Groupware and workflow management software are often used in combination with one another. Typical groupware products focus mainly upon co-operation between people, whereas the emphasis of workflow systems is upon supporting business processes.

Hierarchical organization

In a hierarchical organization, the authority relationships have a tree-like structure, which is often represented in an organization chart.

High-level Petri net

A high-level Petri net is a Petri net extended to include color, time and hierarchy. This extension enables complex processes to be described in a simple way.

InConcert

InConcert is one of the few ad-hoc workflow management systems. Each case has a private process definition which enables on-the-fly changes and workflow design by discovery.

Interoperability

The term interoperability refers to the ability to enable separate applications to communicate and co-operate with one another. Because a workflow system links and integrates different applications, the term interoperability certainly applies to it. The mutual interoperability between workflow systems is also crucial for the success of workflow management in large organizations.

IPSD method

IPSD stands for Interactive, Process-oriented System Development. The IPSD method combines RAD and BPR elements to produce one approach to the development of workflow systems.

Iteration

Iteration is possible within a workflow if its structure permits one or more tasks to be performed repeatedly. An iteration may, for example, result from a quality control: as long as the result of the task is unsatisfactory, it must be repeated.

Synonyms:

- workflow loop;
- repetition.

JAD

Joint application design (JAD) is an approach to the development of specifications during a RAD process by using interactive workshops.

Knowledge management

Knowledge management is the process of collection, enrichment and distribution of knowledge. The goal of knowledge management is to make sure that the right knowledge is at the right time with the person who needs this knowledge to fulfill a task.

Matrix organization

A matrix organization is structured along functional as well as hierarchical lines. The functional structure is based upon projects of a temporary nature.

Network organization

A network organization consists of independent actors who together produce goods and/or provide services. Because there exists no mutual authority relationship between the actors, we also sometimes refer to a 'virtual company'.

Organizational chart

An organizational chart is a tree-like structure which graphically illustrates authority relationships. In other words, it shows the hierarchical structure of the positions within an organization.

Organizational unit

Staff usually work in groups. The composition of such a group may be based upon the location of the work, upon common roles to be fulfilled or upon a package of tasks. In such situations, we refer respectively to a geographical, a functional or a process-based group structure. A group of people working together under its own leadership, on its own tasks and with its own responsibilities is called an organizational unit. An organization is often divided into organizational units in a hierarchical way, making it possible for one such unit to form part of another. It should be possible to identify the organizational unit responsible for performing every task. It is also possible for this to depend upon the case itself. For example, mortgage applications worth more than \$200,000 are dealt with by unit A. Every resource is 'owned' by a particular organizational unit. In fact, such a unit is none other than a resource class based upon organizational characteristics.

Synonyms:

- department;
- team.

OR-join

An OR-join is a task in which a number of alternative workflows reconverge. Unlike an AND-join, however, no synchronization occurs. In other words, the task can be performed as soon as just one single condition has been met.

Synonym:

- asynchronous join.

OR-split

An OR-split is a task in which a choice is made. During the performance of an OR-split, one workflow is selected from a number of available options. Only the selected flow is initiated by the OR-split. The choice is often based upon the particular attributes of the case in hand. However, it may also be a random one. The OR-split is the logical opposite of the OR-join: an OR-split can divide a workflow into a number of alternative streams, which later reconverge at an OR-join. There are two types of OR-split: implicit and explicit. The difference between the two is based upon the moment at which the choice is made.

Synonyms:

- switch;
- conditional choice;
- decision point.

Parallel routing

Two or more tasks related to a specific case may be carried out in parallel if, by definition, the process contains an AND-split and an AND-join. The AND-split allows more than one task to be initiated at the same time. Upon completion, the parallel workflows are resynchronized using the AND-join.

Performance indicator

A performance indicator is a (definition of a) quantity that is used to measure a critical success factor of a process or system. Examples of performance indicators are average flow time, utilization, and service level.

Petri net

A Petri net is the description of a process in terms of places, transitions and arcs. The semantics - the precise meaning - is always formally defined.

Synonym:

- P/T net.

Place

Places are the passive components of a Petri net. A place may contain no, one or more tokens. In workflow-process modeling, conditions are depicted by places.

Synonyms:

- condition;
- channel.

Primary process

A process for dealing with customer-oriented cases. The process concentrates upon the delivery of products and/or services to the company's customers.

Synonym:

- production process.

Principal

A principal is an actor who wants an activity to be performed by a contractor, i.e., the principal contracts out work to a subcontractor. Under the terms of such a contract, the principal and contractor make agreements about the nature of the work, its scheduling and the costs involved. Within an internal organizational context, the term principal also encompasses a 'boss'.

Synonyms:

- customer;
- contractor;

- case owner;
- flow owner.

Process

The definition of a process indicates which tasks must be performed - and in what order - to successfully complete a case. In other words, all possible routes are mapped out. A process consists of tasks, conditions and subprocesses. By using AND-splits, AND-joins, OR-splits and OR-joins, parallel and alternative flows can be defined. Subprocesses also consist of tasks, conditions and possible further subprocesses. The use of subprocesses can enable the hierarchical structuring of complex processes.

Synonyms:

- workflow net;
- WF-net;
- flow chart;
- workflow script;
- procedure;
- process diagram.

Process manager

A process manager is responsible for a process: the completion of cases and the allocation of resources.

Synonym:

- process supervisor.

Protos

Protos is a BPR-tool which facilitates the modeling and distribution of workflow models. See <http://www.pallas-athena.com/>.

Prototype

A prototype is a software system whose functionality closely resembles a system which has yet to be produced. A prototype can also be compared with a scale model.

RAD

Rapid Application Development (RAD) is a method of system development. RAD is characterized by a cyclical development process in which close co-operation with users is prioritized.

Synonym:

- Rapid Application Development.

Reference model

The WFMC's reference model is an architectural definition in which the following components are distinguished: (1) Workflow Enactment Service; (2) Process Definition Tools; (3) Workflow Client Applications; (4) Invoked Applications; and (5) Administration and Monitoring Tools.

Resource

A resource is a means of production or a group of such means. It may include such actors as people, machines, means of transport, applications, departments and business units. Resources can only perform certain tasks, and so are grouped into one or more resource classes. The inclusion of a resource in a particular category provides information about the place which that resource has in the organization, or about a particular quality which it has.

Synonyms:

- agent;
- participant;
- means of production;
- user;
- performer;
- employee.

Resource class

Resources can only perform a limited number of tasks. In order to make it easy to indicate - when defining a process - which resources can carry out a certain task, they are grouped into so-called resource classes. One resource may belong to several resource classes. The grouping of resource is in general structured in two ways. Firstly, resources are divided up on the basis of their place within the organization. This results in resource classes which are also known as organizational units; for example: 'Purchasing Department', 'Team A' or 'Atlanta Branch'. Secondly, they may be divided up according to functional characteristics - also known as roles. Examples of roles are 'Executive C', 'Information Analyst' and 'Cobol programmer'. Each of these roles corresponds with a resource class. Those categories not based upon a role or an organizational unit are called free resource classes.

Synonyms:

- resource category;
- group;
- resource type.

Resource classification

Resources - both staff and automated devices - can only perform a limited number of tasks. What these are depends upon such factors as which roles a resource can fulfill and the location where this must be done. A resource classification divides the resources into subsets, also known as resource classes. Examples of resource classification include separation into roles or into organizational units. Resources with the same characteristics under a particular system of classification form a resource class. Some workflow management systems enable the relationships between the resource classes to be illustrated schematically.

Synonyms:

- organizational diagram;
- organization chart;
- role model.

Resource management

For each case, a number of tasks must be carried out. These are performed by resources. Because the number of resources is limited, it is necessary to harmonize the activities which need to be carried out with resource capacity available to do this. This is when we refer to resource management.

Synonyms:

- allocation;
- workload management.

Role

In order to perform tasks, skills are required. Each resource - for example, a person - has certain skills. A role is a collection of complementary skills. It thus becomes possible to identify which role is necessary to perform which task. Which roles each resource can perform is also indicated. By using roles, it is possible to ensure that tasks are assigned to the correct people. In fact, a role is the same as a resource class based upon functional characteristics.

Synonyms:

- function;
- qualification.

Rollback

A failure may occur during the performance of an activity. Once the workflow system has registered this failure, a rollback takes place. In other words, the workflow system returns to its state at the start of the activity. Once the failure has been rectified, the activity is performed again. As soon as the activity has been successfully completed, a 'commit' takes place.

Routing

The definition of a process determines how cases are routed through the various tasks. Four types of routing are often distinguished: sequencing, selection, parallelization and iteration.

Sagitta 2000

Sagitta 2000 is the name of a new Dutch customs declarations system. Workflow management plays a major role in it.

Secondary process

A process which supports the primary processes, in particular by providing resources.

Synonym:

- support process.

Selective routing

Because most processes need to be able to handle various types of case, not all cases proceed through a given process in the same way. In other words, there may be various routes through a process. In order to ensure that - dependent upon a case's characteristics - a particular route is chosen, we can make use of the OR-split or the OR-join. For each case, an OR-split selects from a number of alternative tasks for each case. These different routes can be reconverged using an OR-join.

Synonyms:

- alternative routing;
- conditional routing;
- selection.

Sequential routing

We refer to sequential task performance when a number of tasks are performed one after the other. When two successive tasks are linked by a condition, then they must be performed sequentially.

Synonyms:

- sequencing;
- succession.

Sound

Soundness is a correctness criterion defined for workflow nets, i.e., Petri nets which represent workflow processes. A workflow net is sound if, for any case, the procedure will terminate eventually and the moment the procedure

terminates there is a token in the sink place and all the other places are empty. Moreover, there should be no dead transitions, i.e., it should be possible to execute an arbitrary task by following the appropriate route through the workflow net.

Synonym:

- Correct.

Simulation

A simulation is the imitation (on a computer) of a process by running through it in sequence. In this way, the process being simulated can be analyzed.

Synonym:

- modeling.

Staffware

Staffware is one of the leading workflow management systems. See <http://www.staffware.com/>.

Task

A task is an 'atomic' process: one which is not further subdivided into component processes. It is thus a logical unit of work; in other words a task is either carried out in full or not at all. A task is not itself linked to a specific case. When a task is carried out for a specific case, we refer to it as an activity. We also differentiate between manual, automatic and semi-automatic tasks. A manual task is performed by a person, without any intervention by an application (for example, the signing of a document). An automatic task is one performed by an application, without any human intervention. A semi-automatic task involves the use of an interactive application (for example, a word processor).

Synonyms:

- process task;
- process step;
- work step;
- transition.

Tertiary process

Tertiary processes are those managerial processes which control the primary and secondary processes.

Synonyms:

- managerial process;
- executive process.

Token

The state of a Petri net is determined by the distribution of tokens amongst the places. If workflows are mapped onto Petri nets, the state of a case will correspond to one or more tokens.

Synonym:

- object.

Transaction

A transaction is the exchange protocol which results in a contract being issued for an activity.

Transaction processing system

A transaction processing system is an information system that registers, transforms and communicates relevant details of the flow of states of a system.

Transition

Transitions are the active components of a Petri net. The triggering of a transition results in the state of the network being changed. In workflow-process modeling, a transition often coincides with a task.

Synonyms:

- event;
- processor.

Triage

Triage is the selection and prioritization of cases in the performance of a task, based upon easy-to-identify characteristics. (One example of triage is the fast-lane in a supermarket where cases are split into large cases – cases that require a lot of work – and small cases – cases that require less work.) The objective of triage is to reduce average completion time.

Trigger

A work item can only be carried out once the state of the case in question allows it. But the actual performance of a task often requires more. If the work item is to be carried out by a person, they must first 'retrieve' it from their in-tray before it can become an activity. In other words, the work item is only performed once a resource has taken an initiative. In such cases, we refer to 'triggering': the work item is triggered by a resource. Other forms of triggering

are also possible, though: by an external event (for example, the arrival of an EDI message) or a particular time (such as the generation of an order list at six o'clock). We therefore differentiate between three types of triggers: (1) resource-initiated, (2) externally-generated and (3) time-based. Work items which must always be carried out immediately - without the intervention of a resource or other prompt - do not require a trigger.

Synonyms:

- activation;
- prompt.

UML

UML (Unified Modeling Language) is the de facto standard for software development. UML is a graphical language for visualizing, specifying, constructing, and documenting the artifacts of a software intensive system. However, the use of UML is not restricted to software development. Some of its diagrams are also used for enterprise modeling, business engineering, process analysis, and system configuration.

Use case

A use case is a case of a workflow process that is used to describe to demonstrate, specify or test a process or system. The set of use cases should cover the most characteristic cases, including errors and exceptions.

Synonyms:

- business case;
- scenario.

Woflan

Woflan is a Petri-net-based workflow analyzer. See <http://www.tm.tue.nl/it/woflan>.

Work item

A work item is the combination of a case and a task which is about to be carried out. Just like an activity, therefore, a work item is linked to a specific case. The work item disappears at the moment that it begins to be acted upon - the moment that performance of the task itself starts. It then becomes an activity. Note that it is possible, based upon the case's state, to determine which work items are waiting to be handled.

Synonyms:

- work assignment;
- work item.

Workflow

A workflow comprises cases, resources and triggers which relate to a particular process.

Workflow definition

A workflow definition consists of the definition of a process, a summary of the resources required and the classification of those resources into classes.

Workflow definition tool

The tool used to define processes and resource classifications.

Synonym:

- workflow modeler.

Workflow engine

The workflow engine provide the actual management of the workflow. Amongst other things, it is concerned with task-assignment generation, resource allocation, activity performance, case preparation and modification, the launching of applications and the recording of logistical information.

Synonyms:

- enactment service;
- run-time executor.

Workflow interoperability

Workflow interoperability is the degree to which two or more workflow engines are able to work together in dealing with a common workflow. This encompasses, for example, the exchange of cases and the contracting out of work items.

Workflow management

The term workflow management refers to the ideas, methods, techniques and software used to support structured business processes. The objective of workflow management is to achieve streamlined and easy-to-maintain work processes.

Synonyms:

- workflow support;
- WFM.

Workflow Management Coalition

The Workflow Management Coalition is an international organization consisting of users, suppliers and developers of workflow products. The most important objective of this organization is to develop standards in the workflow field. The results achieved are published through such media as the world wide web (<http://www.aiim.org/WfMC/>).

Synonym:

- WPMC.

Workflow management system

A workflow management system is a software package for the implementation of a workflow system. The term refers to a universally applicable system; in other words, a workflow management system is not customized to a specific business situation. By configuring such a system, it is turned into one which supports specific workflows. Unlike a workflow system, a workflow management system is thus a generic application.

Synonym:

- WFMS.

Workflow net

A workflow net is a Petri net which represents a workflow process. Such a workflow net has one source place and one sink place. Every node (i.e., place/condition or transition/task) is on a path from the source place to the sink place. A workflow net is sound if, for any case, the procedure will terminate eventually and the moment the procedure terminates there is a token in sink place and all the other places are empty. Moreover, there should be no dead transitions, i.e., it should be possible to execute an arbitrary task by following the appropriate route through the workflow net.

Synonym:

- WF-net.

Workflow state

The state of a workflow is the 'sum' of the state of each case, of that of each of the resources concerned and of the triggers.

Workflow system

A workflow system is one which supports the workflows in a specific business situation. Unlike a workflow management system, a workflow system is thus adapted to a particular application. A workflow system usually consists of a workflow management system plus process and resource classification

definitions, applications, a database system, and so on. We can compare the difference between a workflow management system and a workflow system to that between a database management system and a database system.

Synonym:

- WFS.

Worklist handler

A workflow management system ensures that work items are allocated to resources. If a work item is allocated to a person, it appears in their (actual or metaphorical) in tray. This always contains a list of those tasks still to be performed. By selecting a work item from the in-tray, the person can carry out that task. Note that a work item may appear in more than one in tray.

Synonyms:

- work tray;
- in-tray;
- worklist;
- to-do list.