

Workflow Management Coalition Terminology & Glossary

Workflow Glossary - Relationships between basic terminology

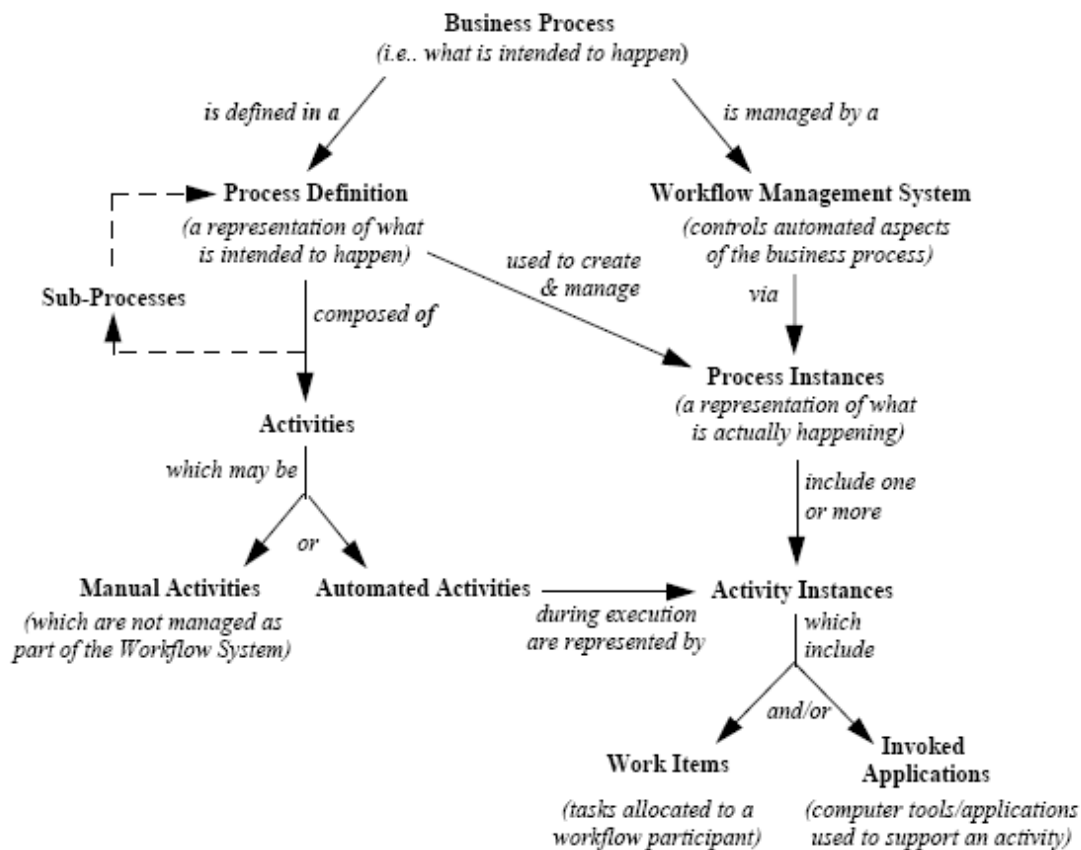


Figure 1 - Relationships between basic terminology

Workflow

The automation of a business process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules.

Workflow Management System

A system that defines, creates and manages the execution of workflows through the use of software, running on one or more workflow engines, which is able to interpret the process, interact with workflow participants and, where required, invoke the use of IT tools and applications.

Business Process

A set of one or more linked procedures or activities which collectively realise a business objective or policy goal, normally within the context of an organisational structure defining functional roles and relationships.

Process

The representation of a business process in a form which supports automated manipulation, such as modelling, or enactment by a workflow management system. The process consists of a network of activities and their relationships, criteria to indicate the start and termination of the process, and information about the individual activities, such as participants, associated IT applications and data, etc.

Activity

A description of a piece of work that forms one logical step within a process. An activity may be a manual activity, which does not support computer automation, or a workflow (automated) activity. A workflow activity requires human and/or machine resources(s) to support process execution; where human resource is required an activity is allocated to a workflow participant.

Automated Activity

An activity which is capable of computer automation using a workflow management system to manage the activity during execution of the business process of which it forms a part.

Manual Activity

An activity within a business process which is not capable of automation and hence lies outside the scope of a workflow management system. Such activities may be included within a process, for example to support modelling of the process, but do not form part of a resulting workflow.

Instance (as in Process or Activity Instance)

The representation of a single enactment of a process, or activity within a process, including its associated data. Each instance represents a separate thread of execution of the process or activity, which may be controlled independently and will have its own internal state and externally visible identity, which may be used as a handle, for example, to record or retrieve audit data relating to the individual enactment.

Process Instance

The representation of a single enactment of a process. (See also general entry on Instance).

Activity Instance

The representation of an activity within a (single) enactment of a process, i.e. within a process instance. (See also general entry on Instance)

Workflow Participant

A resource which performs the work represented by a workflow activity instance. This work is normally manifested as one or more work items assigned to the workflow participant via the worklist.

Work Item

The representation of the work to be processed (by a workflow participant) in the context of an activity within a process instance.

Worklist

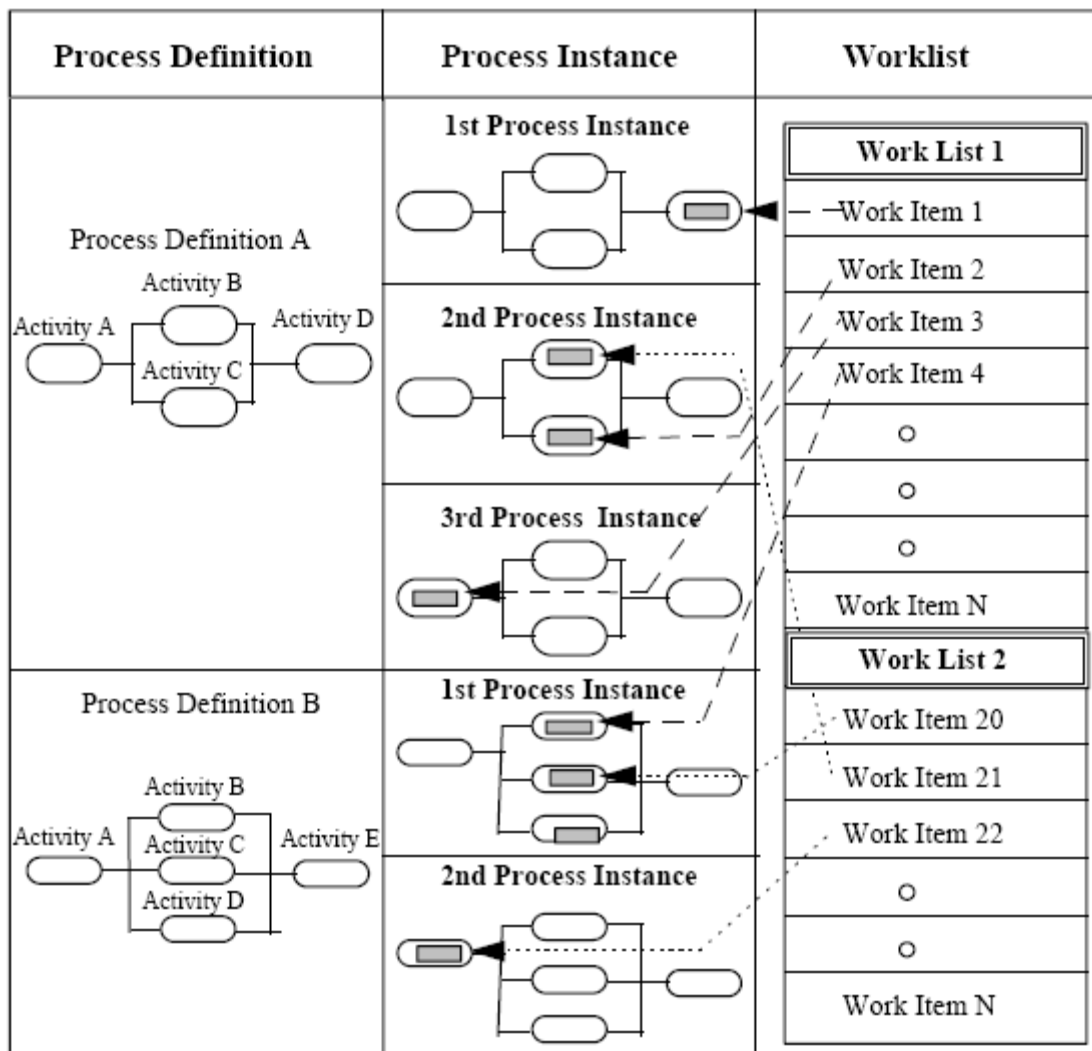
A list of work items associated with a given workflow participant (or in some cases with a group of workflow participants who may share a common worklist). The worklist forms part of the interface between a workflow engine and the worklist

handler

Worklist Handler

A software component that manages the interaction between the user (or group of users) and the worklist maintained by a workflow engine. It enables work items to be passed from the workflow management system to users and notifications of completion or other work status conditions to be passed between the user and the workflow management system.

Processes and Worklist Structures - Overview



Workflow Reference Model

An architectural representation of a workflow management system, identifying the most important system interfaces, developed by the Workflow Management Coalition.

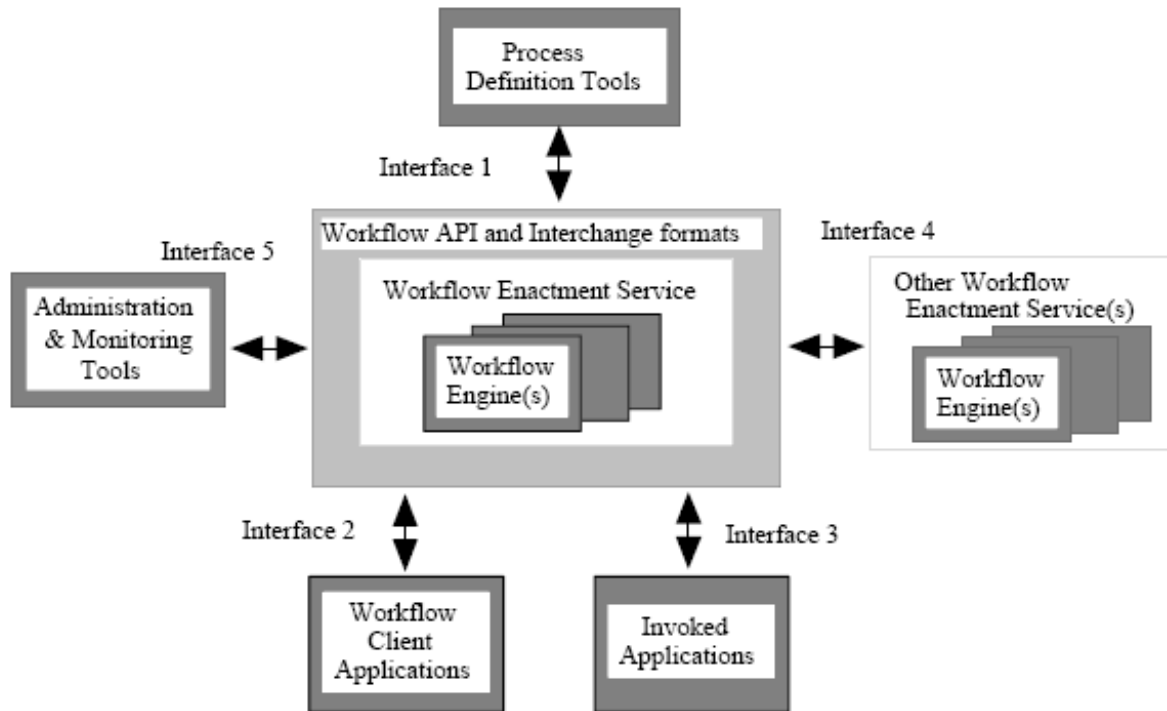


Figure 4 - The Workflow Reference Model

WAPI

WAPI is an abbreviation for **Workflow APIs and Interchange Formats**, published by the Workflow Management Coalition, and incorporating specifications to enable interoperability between different components of workflow management systems and applications

3- PROCESS CONCEPTS & STRUCTURE

This section includes terminology used within the process and during process execution to describe the nature of the process flow and its interactions.

Process Mode

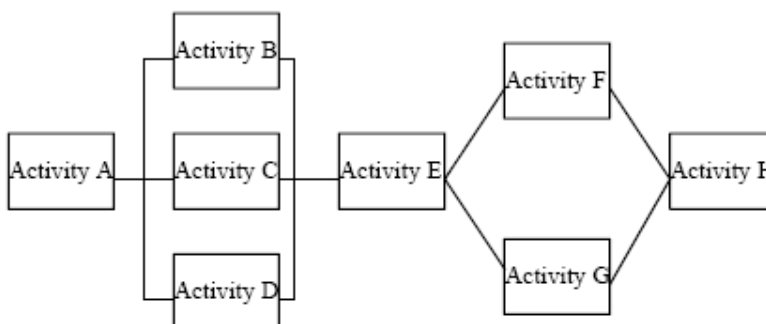
The time period when manual and/or automated (workflow) descriptions of a process are defined and/or modified electronically.

Process

A formalised view of a business process, represented as a co-ordinated (parallel and/or serial) set of process activities that are connected in order to achieve a common goal.

Usage

- Example: An eight activity process



Sub Process

A process that is enacted or called from another (initiating) process (or sub process), and which forms part of the overall (initiating) process. Multiple levels of sub process may be supported.

Activity Block

A set of activities within a process which share one or more common properties which cause the workflow management software to take certain actions with respect to the block in total.. For example a group of activities may be classified as a block if they require a common resource allocation policy.

Deadline

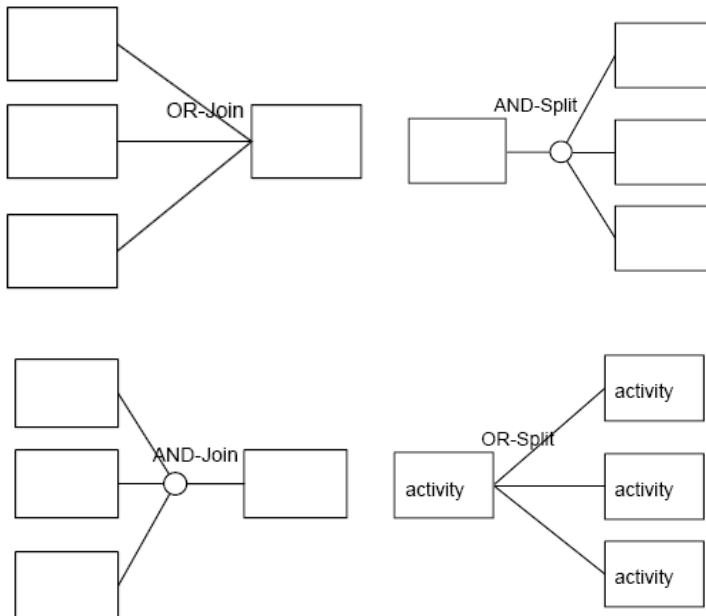
A time based scheduling constraint which requires that a certain activity (or work item) be completed by a certain time (the “deadline”).

Parallel Routing

A segment of a process instance under enactment by a workflow management system, where two or more activity instances are executing in parallel within the workflow, giving rise to multiple threads of control.

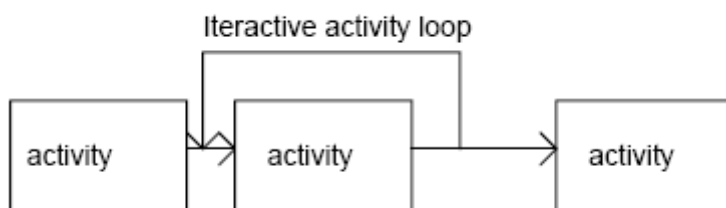
Sequential Routing

A segment of a process instance under enactment by a workflow management system, in which several activities are executed in sequence under a single thread of execution. (No AND-Split or AND-Join conditions occur during sequential routing.)



Iteration

A workflow activity cycle involving the repetitive execution of one (or more) workflow activity(s) until a condition is met.



Pre-Condition

A logical expression which may be evaluated by a workflow engine to decide whether a process instance or activity within a process instance may be started.

Post-Condition

A logical expression which may be evaluated by a workflow engine to decide whether a process instance or activity within a process instance is completed..

Transition

A point during the execution of a process instance where one activity completes and the thread of control passes to another, which starts. See also *State Transition* and *Transition Condition*

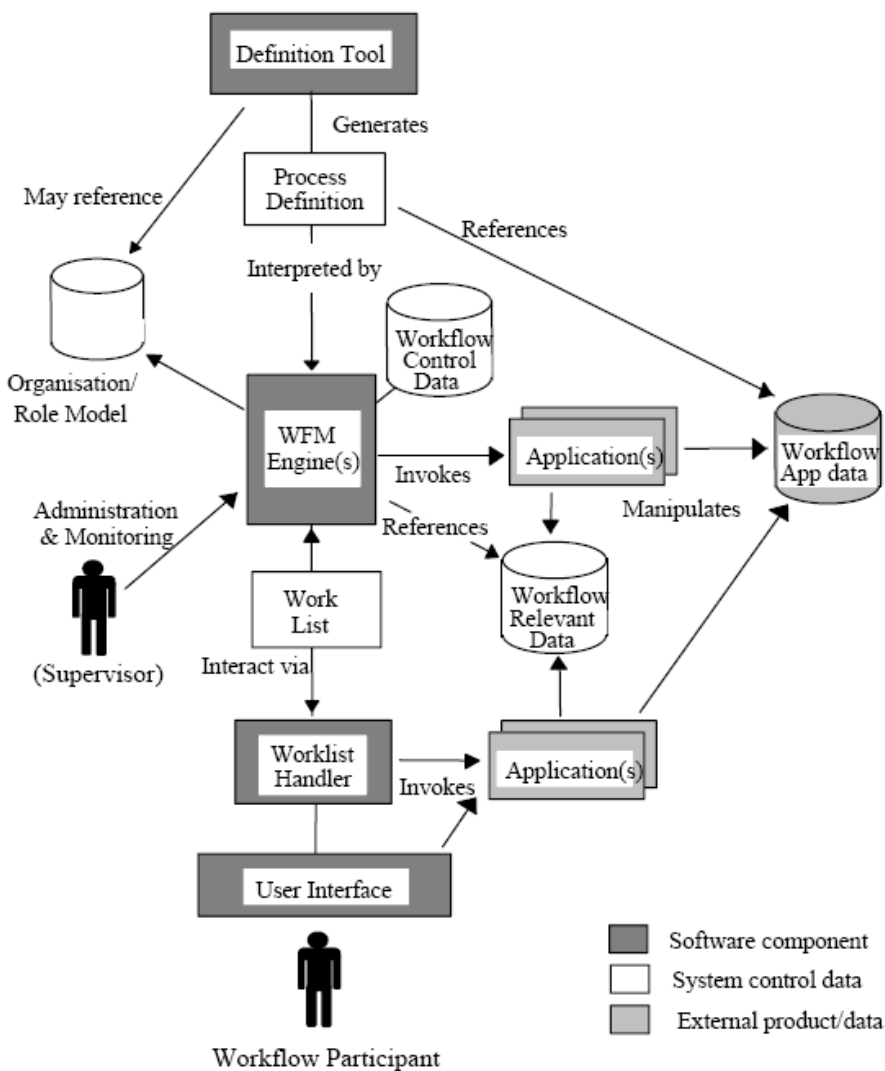
Transition Condition

A logical expression which may be evaluated by a workflow engine to decide the sequence of activity execution within a process.

4 - WIDER WORKFLOW CONCEPTS & TERMINOLOGY

This section includes terminology used within the wider context of workflow management systems.

Generic Workflow Product Structure



Workflow Application

A general term for a software program that interacts with a workflow enactment service, handling part of the processing required to support a particular activity (or activities).

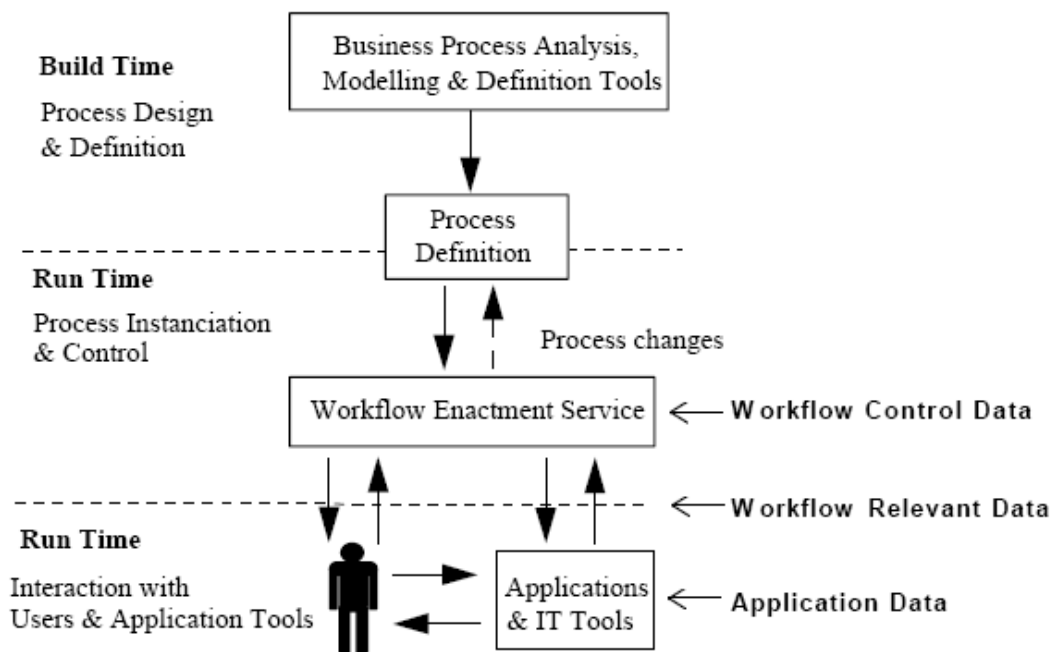
Client Application

A client application is an application which interacts with a workflow engine, requesting facilities and services from the engine.

Invoked Application

An invoked application is a workflow application that is invoked by the workflow management system to automate an activity, fully or in part, or to support a workflow participant in processing a workitem.

Workflow Data Structures - Overview



Application Data

Data that is application specific and not accessible by the workflow management system.

Workflow Relevant Data

Data that is used by a Workflow Management System to determine the state transitions of a workflow instance, for example within pre- and post-conditions, transition conditions or workflow participant assignment.

Workflow Control Data

Data that is managed by the Workflow Management System and/or a Workflow Engine. Such data is internal to the workflow management system and is not normally accessible to applications.

Process State

A representation of the internal conditions defining the status of a process instance at a particular point in time. Most workflow management systems maintain such status information as part of their workflow control data.

Activity State

A representation of the internal conditions defining the status of an activity instance at

a particular point in time. Most workflow management systems maintain such status information as part of their workflow control data.

- Inactive - the activity instance has been created, but may not yet been activated; no work item exists for that activity
- Active - one or more work items have been created and assigned for processing
- Suspended - the activity instance is quiescent; no further work items are started until it is resumed. (Note that some activities may not be suspendable.)
- Completed - the process instance has achieved its completion conditions and any post-completion system activities such as audit logging are in progress.

State Transition

A movement from one internal state (of a Process or Activity Instance) to another within a workflow, reflecting a change in the status of the workflow, for example initiating a particular activity. The state transition may be in response to an external event, a user API call, a routing decision taken by the workflow engine, etc.

Dummy Activity

An Activity which has no inherent processing related to the business process, but which is used to represent and evaluate complex routing or process control conditions which may be too complicated to define efficiently using conventional process notation.

Event

An occurrence of a particular condition (which may be internal or external to the workflow management system) which causes the workflow management software to take one or more actions. For example the arrival of a particular type of email message may cause the workflow system to start an instance of a specific process .

An event has two elements:

1. A **Trigger**, or cause, which is the recognition of some predefined set of circumstances associated with the operation of the system, which causes a particular action to be taken
2. The **Action** (or response) – which is the pre-defined system response following a trigger condition

Audit Data

A historical record of the progress of a process instance from start to completion or termination. Such data normally incorporates information on the state transitions of the process instance

Workflow

That part of the process which comprises the automatable activities.

Process Execution

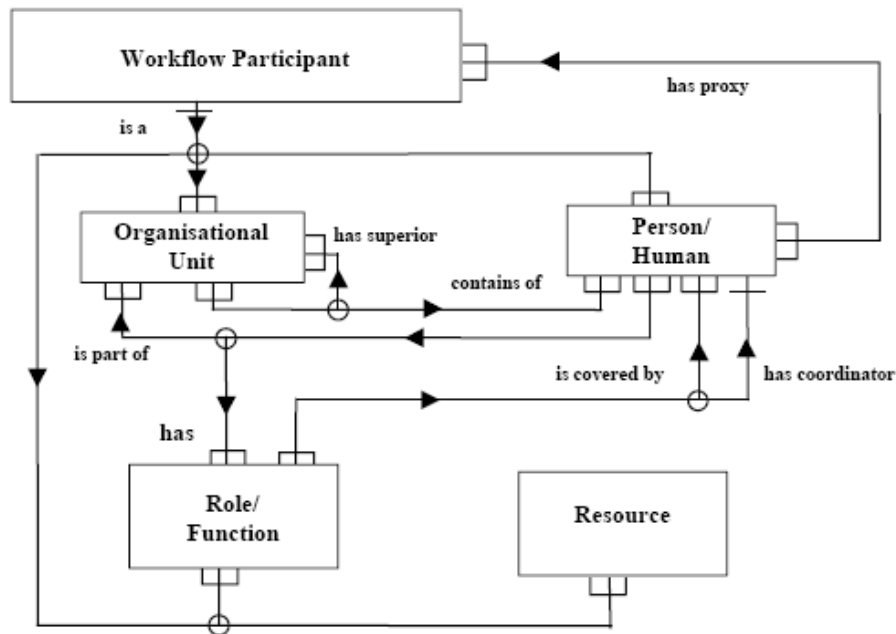
The time period during which the process is operational, with process instances being created and managed.

Organizational Role

A group of participants exhibiting a specific set of attributes, qualifications and/or skills.

Organizational Model

A model which represents organisational entities and their relationships; it may also incorporate a variety of attributes associated with the entities, such as skills or role. Such a model may be realised in a directory or other form of database.



Process Role

A mechanism that associates participants to a collection of workflow activity(s).

Escalation

A procedure (automated or manual) which is invoked if a particular constraint or condition is not met.

Constraint

A condition (typically pertaining to activity/work selection and/or completion) which must be met during work processing; failure to meet a constraint may causes an exception condition or other defined procedure.

Workflow Monitoring

The ability to track and report on workflow events during workflow execution.

Workflow Engine

A software service or "engine" that provides the run time execution environment for a process instance.

functions include:

- Interpretation of the process .
- Creation of process instances and management of their execution, including start / stop / suspend /resume, etc.
- Navigation between activities and the creation of appropriate work items for their processing
- Supervisory and management functions

Workflow Interoperability

The ability for two or more Workflow Engines to communicate and work together to co-ordinate work.

Workflow Interoperability Contract

A pre-established contract between organisations which defines the scope, business and technical framework of workflow interoperability.

Workflow Enactment Service

A software service that may consist of one or more workflow engines in order to

create, manage and execute particular workflow instances. Applications may interface to this service via the workflow application programming interface (part of WAPI).

Workflow Domain

A workflow management service that consists of one or more workflow engines which are managed as an homogeneous unit, operating to a common administrative model.

Work Item Pool

The representation of all work items accessible from a particular workflow engine

Administrator

A workflow system user who has special privileges allowing various system set-up, control and management functions to be performed. In some systems these tasks may be shared between several administrators, each taking responsibility for separate areas of administration.