

Adaptive Case Management (ACM) in Practice

CMMN 1.0 - Case Management Model and Notation

Case Plan Model
The complete behavior model of a Case is captured in a CasePlanModel. It comprises both: all elements that represent the initial plan of the Case, and all elements that support the further evolution of the plan through run-time planning by case workers. There are four types of PlanItems: Tasks, Plan Fragments / Stages, EventListeners and Milestones.

Case File Item
All information, or references to information, that is required as context for managing a Case, is defined by a CaseFile. Every Case is associated with exactly one CaseFile. It contains CaseFileItems that can be anything from a folder or document stored in CMIS (Content Management Interoperability Services), an entire folder hierarchy referring or containing other CaseFileItems or simply an XML document with a given structure.

Stages
Stages do have run-time representations in a Case (instance) plan. Instances of Stages are tracked through the CMMN-defined Stage lifecycle. They may be considered "episodes" of a Case, though Case models allow for defining Stages that can be planned in parallel also. A Stage is depicted with a marker in the form of a "+" (collapsed) or "-" (expanded) sign in a small box at its bottom center.

Tasks
Case management planning is typically concerned with determination of which Tasks are applicable, or which follow-up Tasks are required. A Task is an atomic unit of work. During the design-time phase of a Case, business analysts engage in modeling, which includes defining Tasks that are always part of pre-defined segments in the Case model, and "discretionary" Tasks that are available to the Case worker, to be applied in addition, to his/her discretion. In the run-time phase, Case workers execute the plan, particularly by performing Tasks as planned and adding discretionary Tasks to the plan of the Case instance in run-time.

Blocking HumanTask
A blocking HumanTask is waiting until the work associated with the Task is completed.

Non-Blocking HumanTask
A non-blocking HumanTask is not waiting for the work to complete and completes immediately, upon instantiation.

Process Task
A ProcessTask can be used in the Case to call a Business Process.

Case Task
A CaseTask can be used to call another Case.

Milestones
A Milestone represents an achievable target, defined to enable evaluation of progress of the Case. No work is directly associated with a Milestone, but completion of set of Tasks or the availability of key deliverables (information in the CaseFile) typically leads to achieving a Milestone. A Milestone may have zero or more entry criteria, which define, when a Milestone is reached.

Event Listeners
In CMMN an event is something that "happens" during the course of a Case. Events may trigger, for example, the enabling, activation and termination of Stages and Tasks, or the achievement of Milestones. Instances of TimerEventListener are used to catch predefined elapses of time. A UserEventListener enables direct interaction of a user with the Case.

	Planning Table	Entry Criterion	Exit Criterion	Auto Complete	Automatic Activation	Required	Repetition
Case Plan Model	✓		✓	✓			
Stage	✓	✓	✓	✓	✓	✓	✓
Task	Human Task only	✓	✓		✓	✓	✓
Milestone		✓				✓	✓
Event Listener							
Case File Item							

Planning Tables
Planning is a run-time effort. A Stage or a HumanTask can have a PlanningTable. The PlanningTable can be used to plan instances of Tasks and Stages into a Stage instance or into a Stage that contains a HumanTask with a PlanningTable.

Sentries
Sentries define the criteria according to which the PlanItems are enabled (or entered) and terminated (or exited).

Download the complete specification:
<http://www.omg.org/spec/CMMN/1.0/Beta1/>

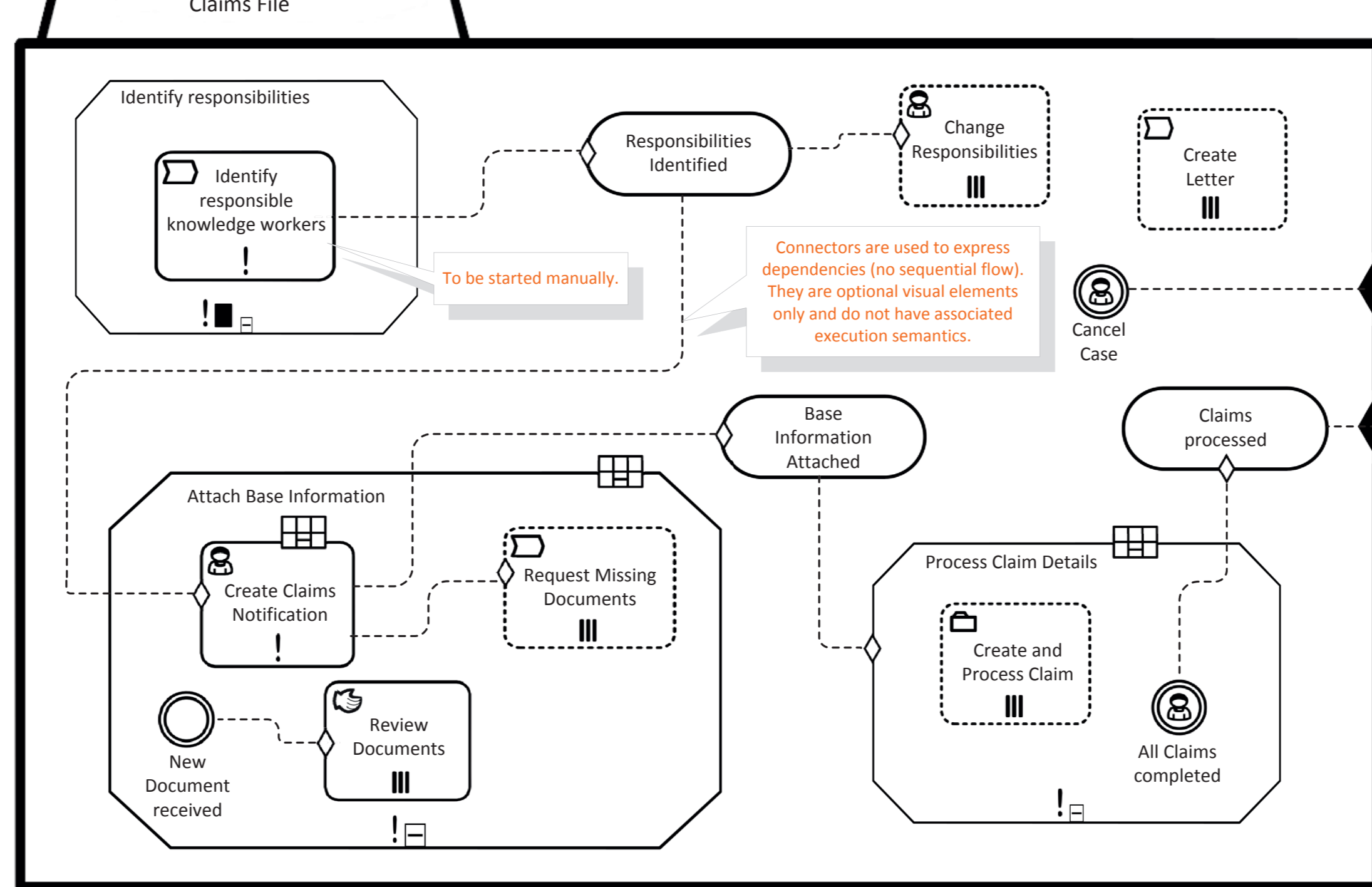
What is ACM?

- ACM aids in the decision making process through suggestions, yet putting the human back into the driver seat.
- ACM is centred around living information and relationships, while traditional business processes are centred around a-priori defined activity sequences.
- ACM can lead to optimised, normative processes.
- ACM is based on dynamic runtime assembly of known and new activities.
- ACM and rigid (normative) process modelling are disciplines within the realm of BPM and are complementary.
- ACM can be the island within the BPMN process or the other way round.
- ACM platforms must integrate seamlessly into an Enterprise's Platform Architecture.

Why ACM?

- Empower Knowledge Worker
- Living Knowledge base to embrace the learning organisation
- Suggesting instead of Mandating
- No more rigid process boundaries
- Adaptive approach to the unpredictable process variances
- Discovery of process paths
- Complements BPMN
- Collaborative Decision Making

Insurance Claims File Management

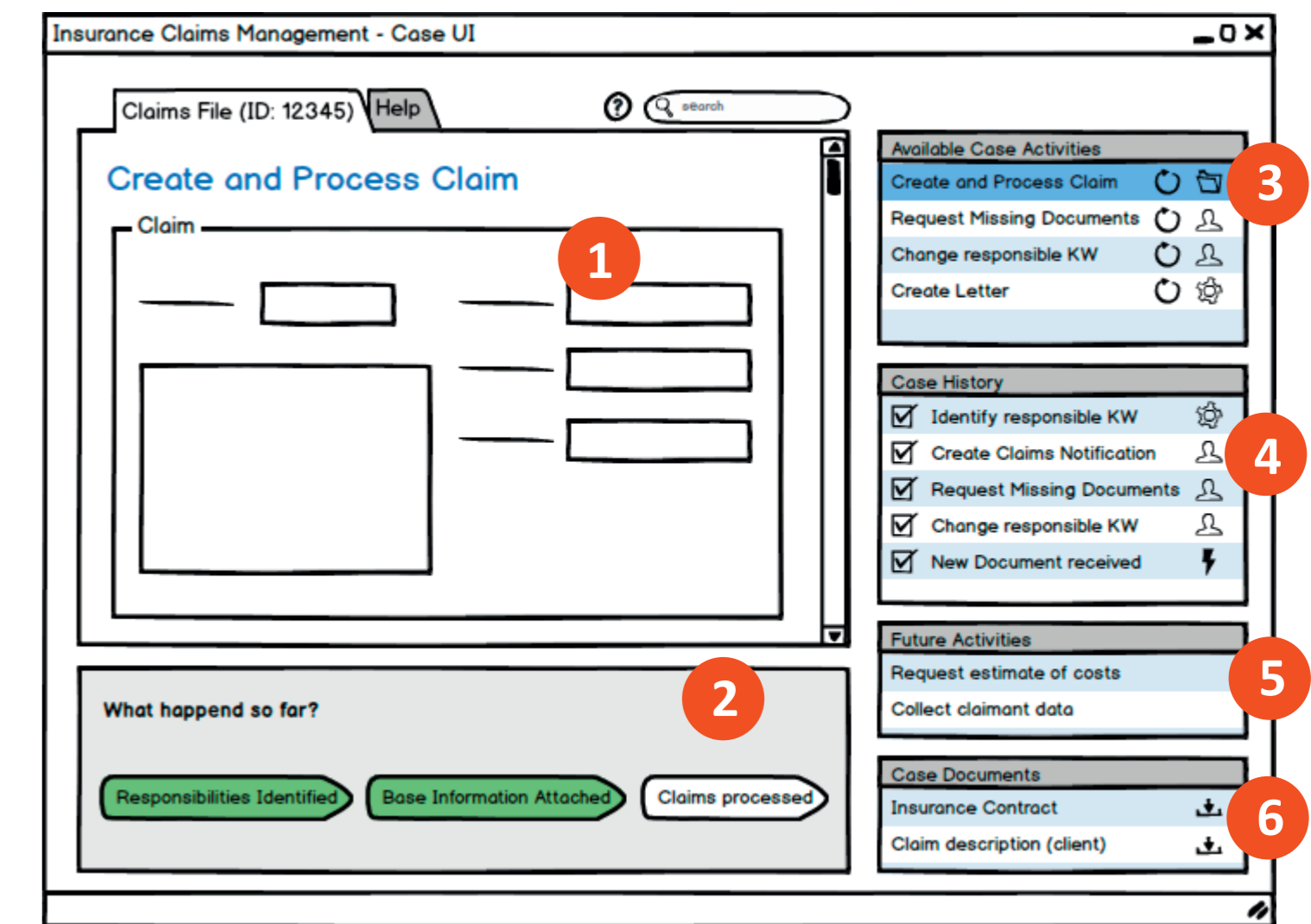


Model Description

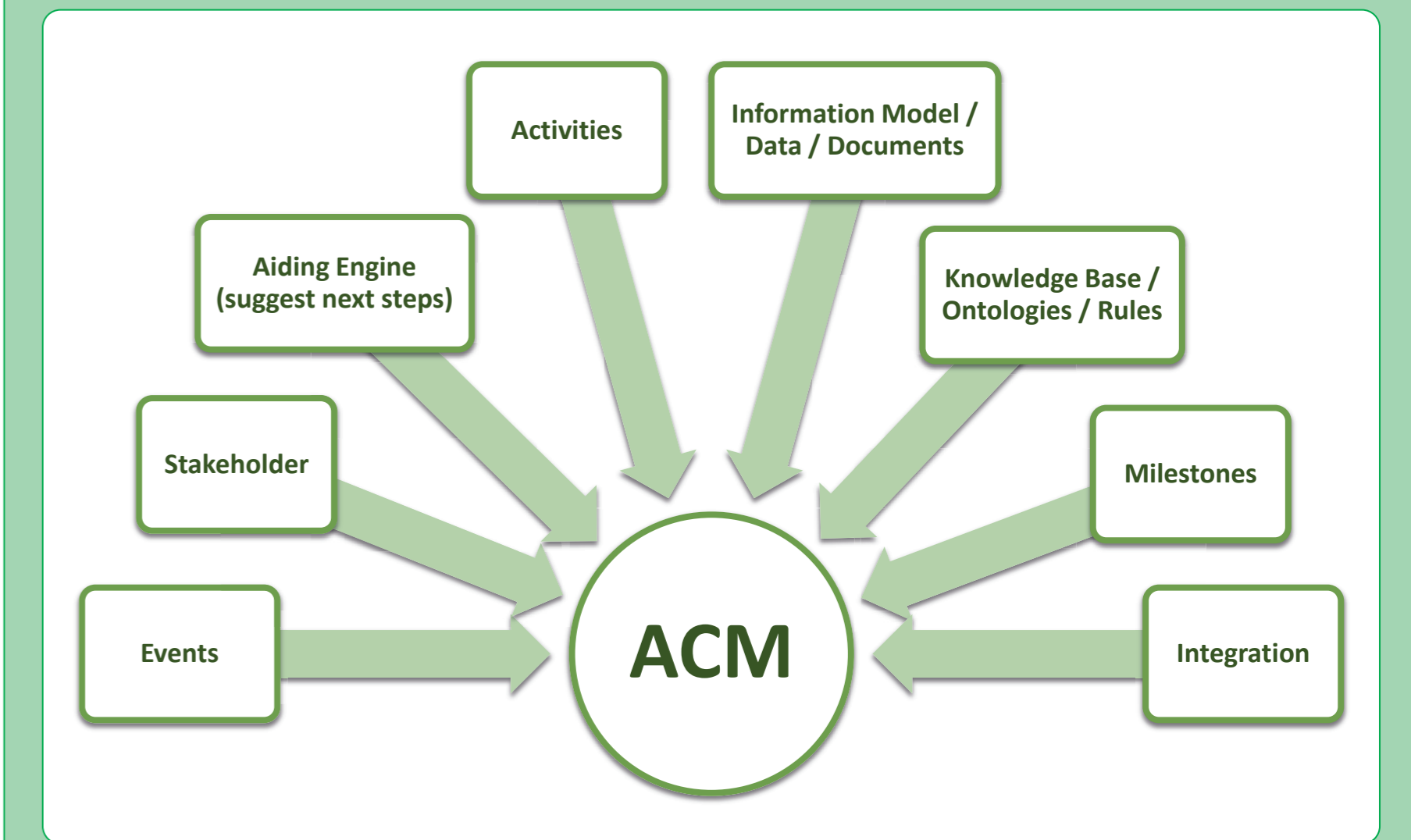
- Case activated via "Claims Management User Interface" (Case UI)
- Case UI: The activities *Identify responsible Knowledge Workers* and *Create Letter* are displayed. The EventListeners *New Document Received* as well as *Cancel Case* are ready to catch incoming events.
- Action: The ProcessTask *Identify responsible knowledge worker* (manually started from the Case UI) will trigger an automated process to determine the responsible knowledge workers.
- Result: After this activity completes, the Stage *Identify responsibilities* is closing itself (note the AutoComplete decorator). The Milestone *Responsibilities identified* is completed because its Sentry is evaluated to true (Rule: Activity *Identify responsible knowledge workers* is completed)
- Case UI: The HumanTask *Change responsible Knowledge Workers* (repeatable) and *Create Claims Notification* are now available and can be started.
- Action: The knowledge worker starts the HumanTask *Create Claims Notification*.
- Result: Milestone *Base Information Attached* is completed because its Sentry is evaluated to true (Rule: Activity *Create Claims Notification* is completed) and the HumanTask *Request Missing Documents* becomes available on the Case UI. The *New Document Received* event can still be received (note that stage *Attach Base Information* has no AutoComplete decorator and no ExitCriterion). Stage *Process Claim Details* becomes active because its Sentry is evaluated to true.
- Case UI: The CaseTask *Create and Process Claim* (repeatable) becomes available and can be started by the knowledge worker multiple times to trigger another cases.
- Result: After receiving event *All claims completed* the Milestone *Claims processed* is completed because its Sentry is evaluated to true (Rule: Event received)
- Case instance and its Stages are closed.

ACM User Interface Example

- 1 Information model - display and manipulation of Case context related living knowledge (claim and contract).
- 2 Monitoring Milestones - to determine which guided process activities are in progress or are completed
- 3 Suggested next steps - the steps suggested by the aiding engine (Available Case Activities).
- 4 Case History - History of all activities that have been completed or updated etc.
- 5 Future Activities - List of important activities that become available in the future.
- 6 Case Documents - Documents & data associated with the current Case.



ACM Building Blocks



Masons of SOA

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