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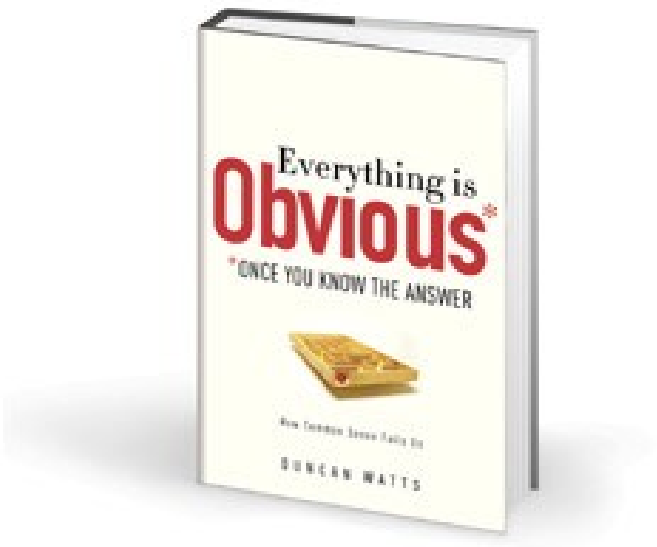
EVENT DRIVEN BPM

THE JBOSS WAY

John Graham – TD Manager - SOA
Edson Tirelli – Drools Fusion Lead
Kris Verlaenen – jBPM Lead
May 4th, 2011

Agility & Reaction



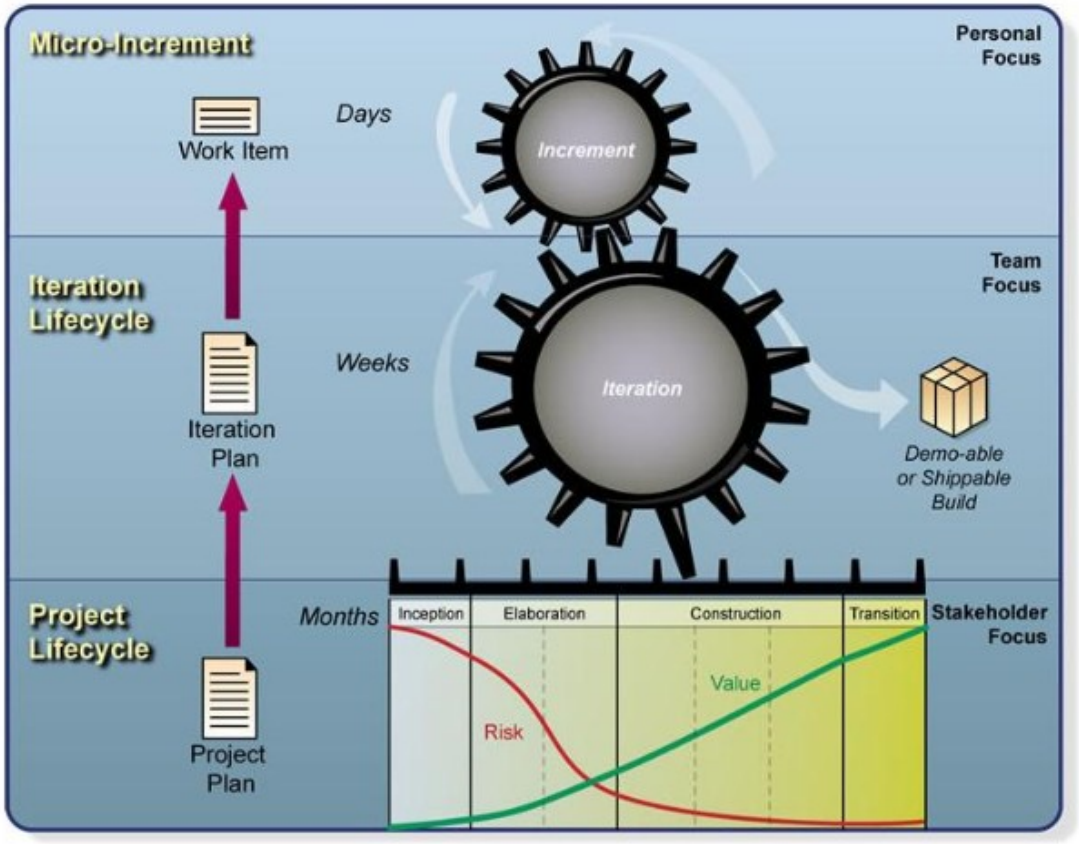
http://everythingisobvious.com/

- Ability of models to predict, rather than describe or explain
- Descriptive or normative? How about agile?
- Challenge: understand and react in real time

Example Software Process

What is OpenUP?

OpenUP is a lean Unified Process that applies iterative and incremental approaches within a structured lifecycle. OpenUP embraces a pragmatic, agile philosophy that focuses on the collaborative nature of software development. It is a tools-agnostic, low-ceremony process that can be extended to address a broad variety of project types.



http://www.eclipse.org/projects/project_summary.php?projectid=technology.epf

Releasing software entails...

Rules

- For scope changes
- For commits
- For code reviews
- End game policies

Processes

- Iteration steps
- Milestone closure
- Change management

Events

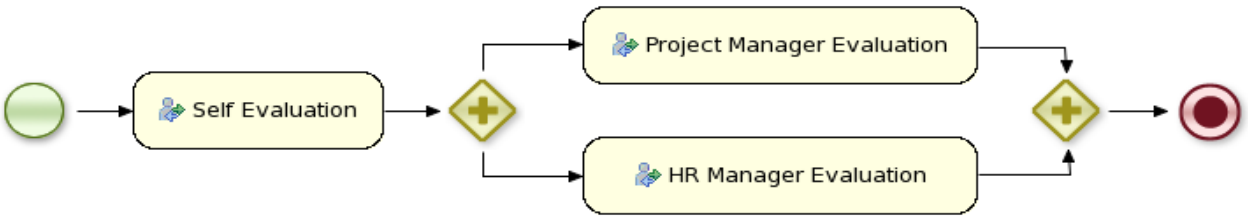
- Bug state transitions
- Instability clustering
- Feature completion
- Builds status
- Test status
- Staff availability
- Infrastructure status

Suggestion

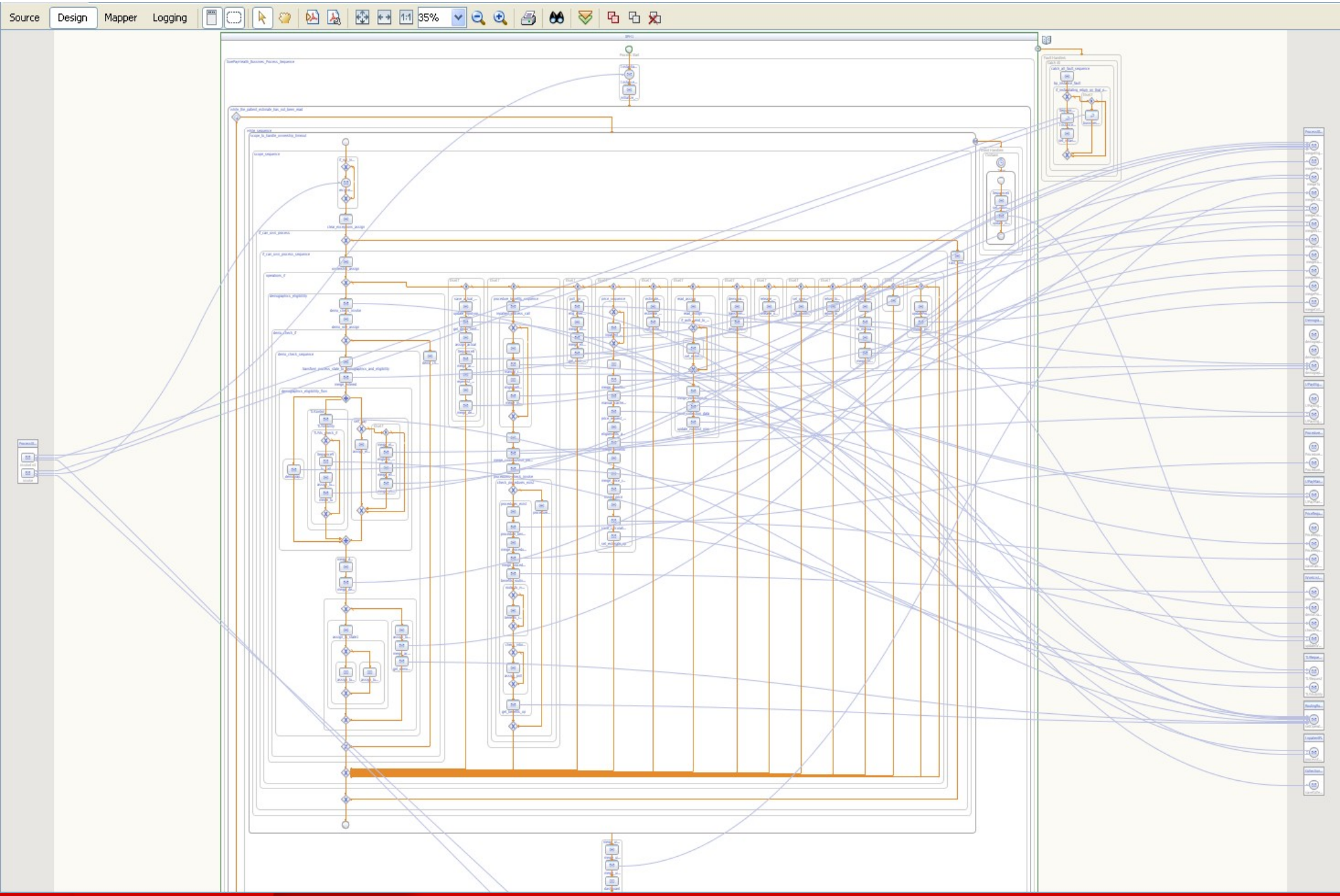
Use API and reporting mechanisms available with many/most software development tools and infrastructure *combined with* jBPM 5 and Drools to gain real time understanding and agility.

Ready for the future?

Traditional BPM systems have problems with change, complexity, flexibility, data-intensive applications, etc.



- Adaptive Case Management (ACM)
- Unstructured, non-lineair or flexible processes
- Event-driven BPM (edBPM)



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What is flexibility?

“The quality of being adaptable or variable”

Flexibility

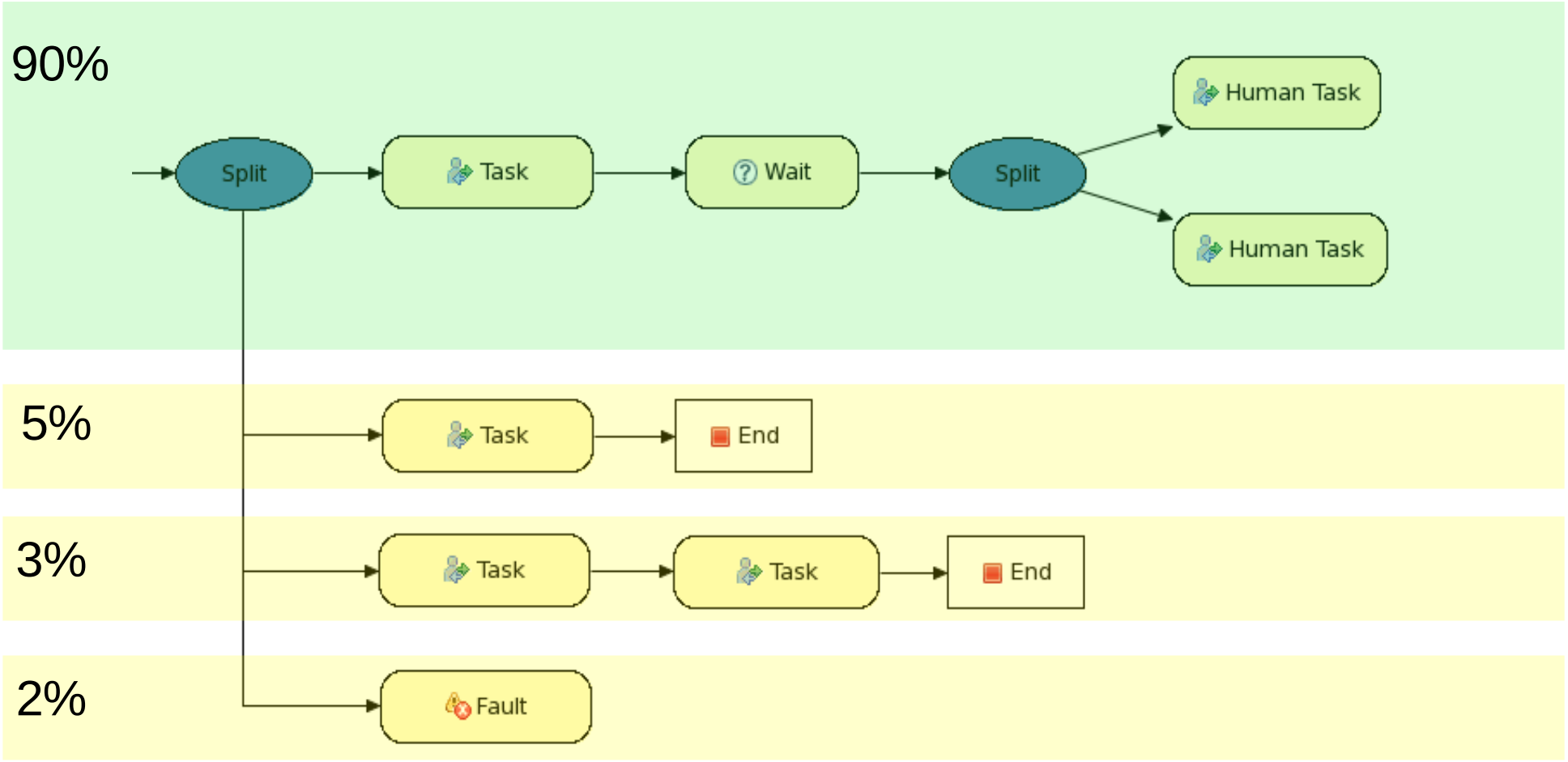
=

Variability

+

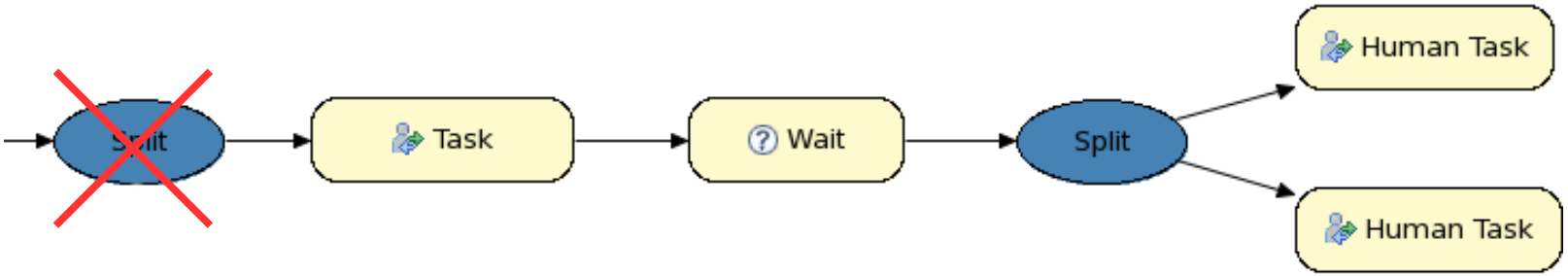
Change

Exceptional Control Flow



Exceptional Control Flow

90%



Rule1
When
...
Then
...

5%

Rule2
When
...
Then
...

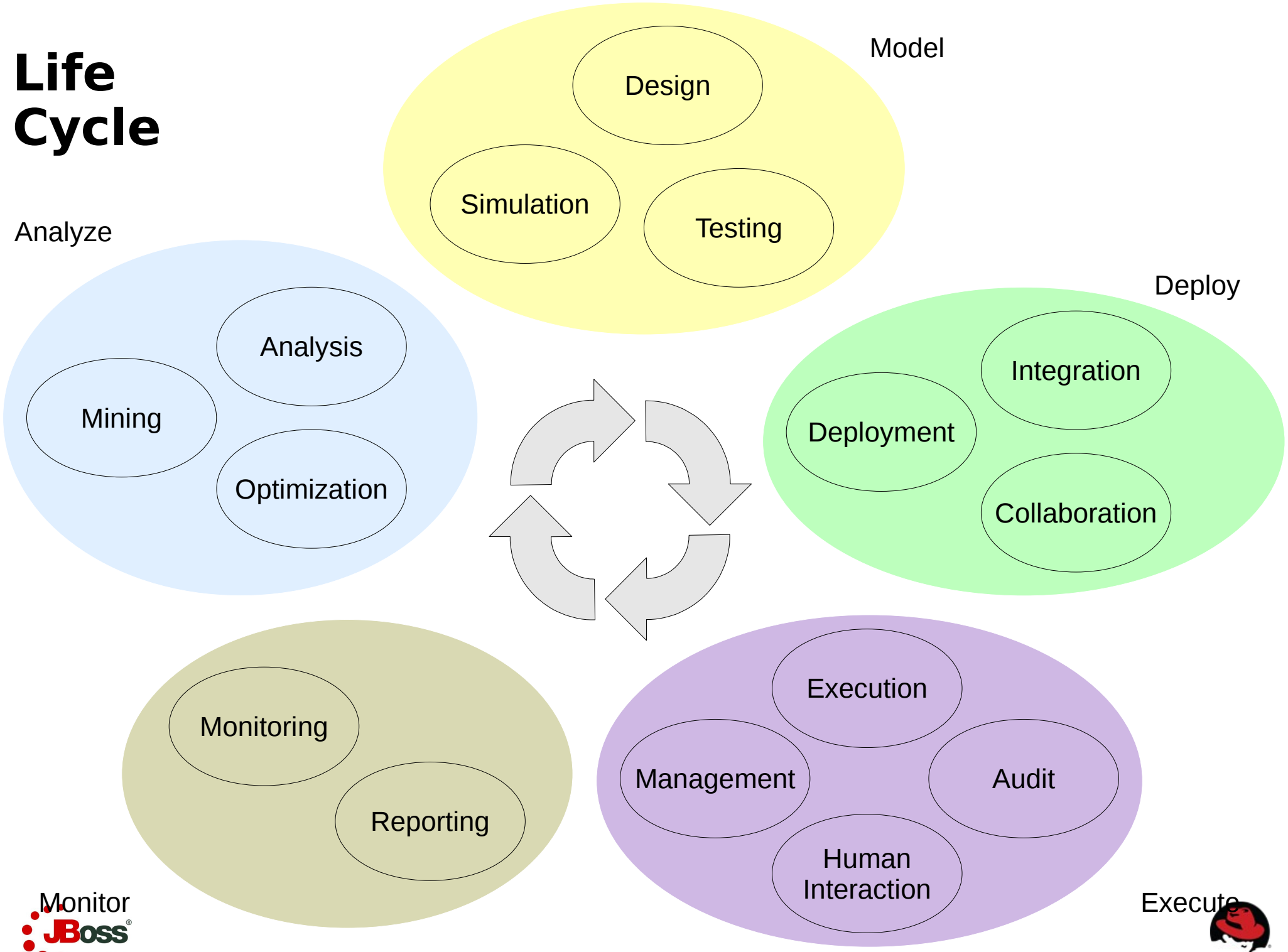
3%

Rule3
When
...
Then
...

2%

Processes + Rules + Events

Life Cycle



JBoss by Red Hat

Vision

*A **knowledge-oriented platform** for **developers and business users***

Logistics Company – Business Overview

- Time specific deliveries of critical freight
- Exclusive use of non-stop door-to-door services
- Blended surface and air services to minimize cost and transit time
- Extra care in handling and specially equipped vehicles
  - Temperature control, Secured Services, Hazardous Material, Constant Surveilance

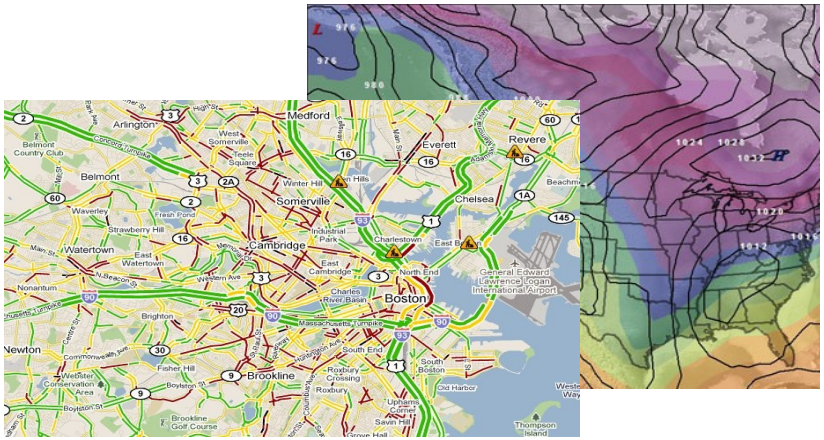
Source: E. Tirelli & A. Mollenkopf - ORF2009

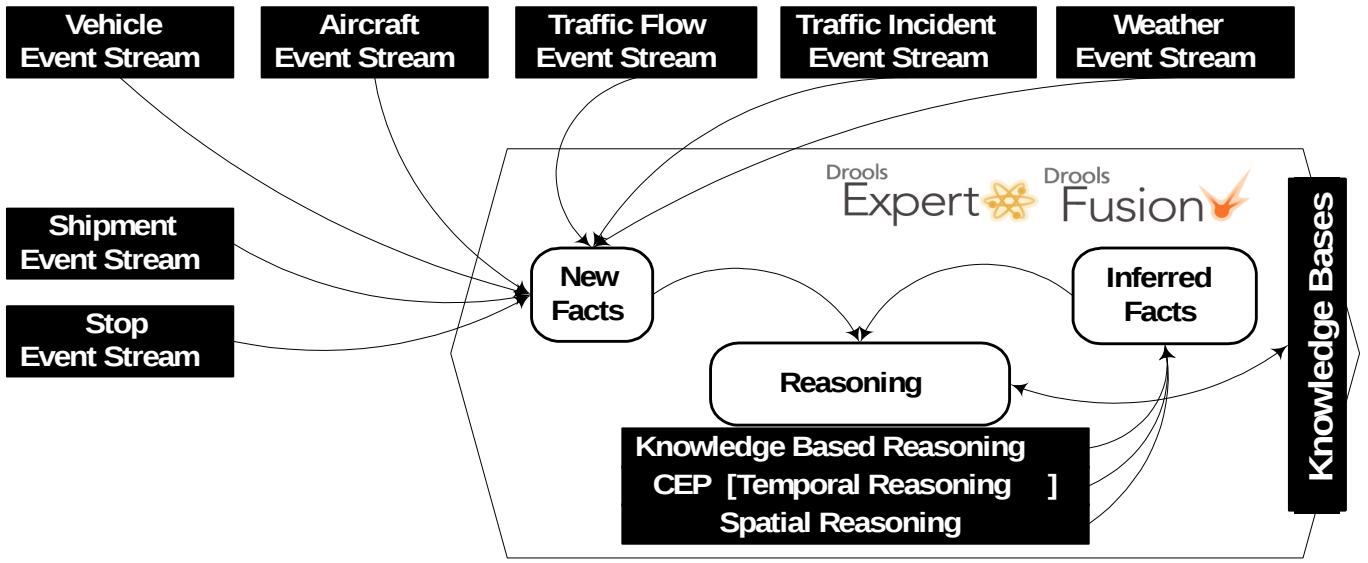
Logistics Company – goals

- End-to-end management of shipments
  - Dispatch eligibility, fleet scoring and shipment assignment
  - Route calculation and monitoring
  - Incident management
- ETA management
- Capacity tracking

Source: E. Tirelli & A. Mollenkopf - ORF2009

Logistic Company - Solution





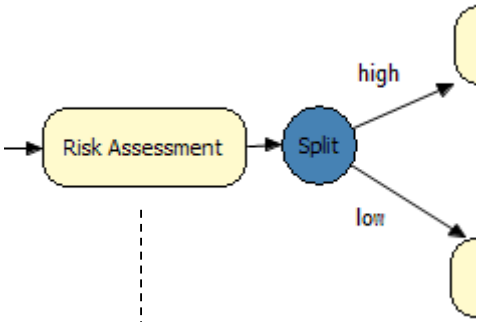
Source: E. Tirelli & A. Mollenkopf - ORF2009

Combining Processes, Rules and Events

- Integration
  - From loose coupling
  - To advanced integration
- Unification
  - Processes and (event) rules are different types of business knowledge assets
  - Tooling (IDE, repository, management)

Decision Service

- Different life cycle (agility)
- Larger scope (reusable)
- Higher-level
- Loosely-coupled



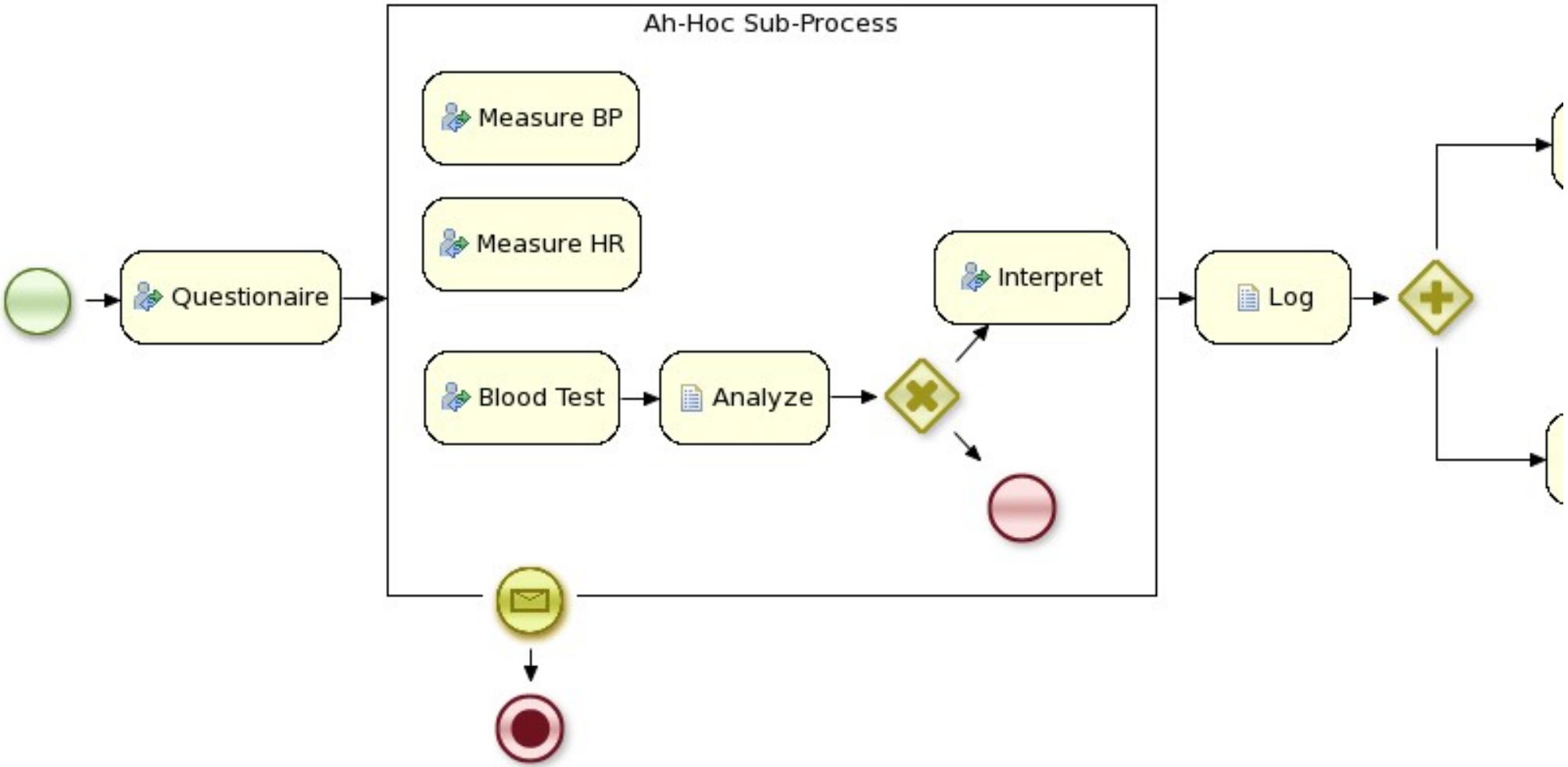

```
rule "High Risk if age < 21"
    ruleflow-group "RiskAssessment"
    when
        Person( age < 21 )
    then
        insert ( new RiskFactor(
            0.1, "Person is less than 21.") );
end
```

```
  end
    end
```

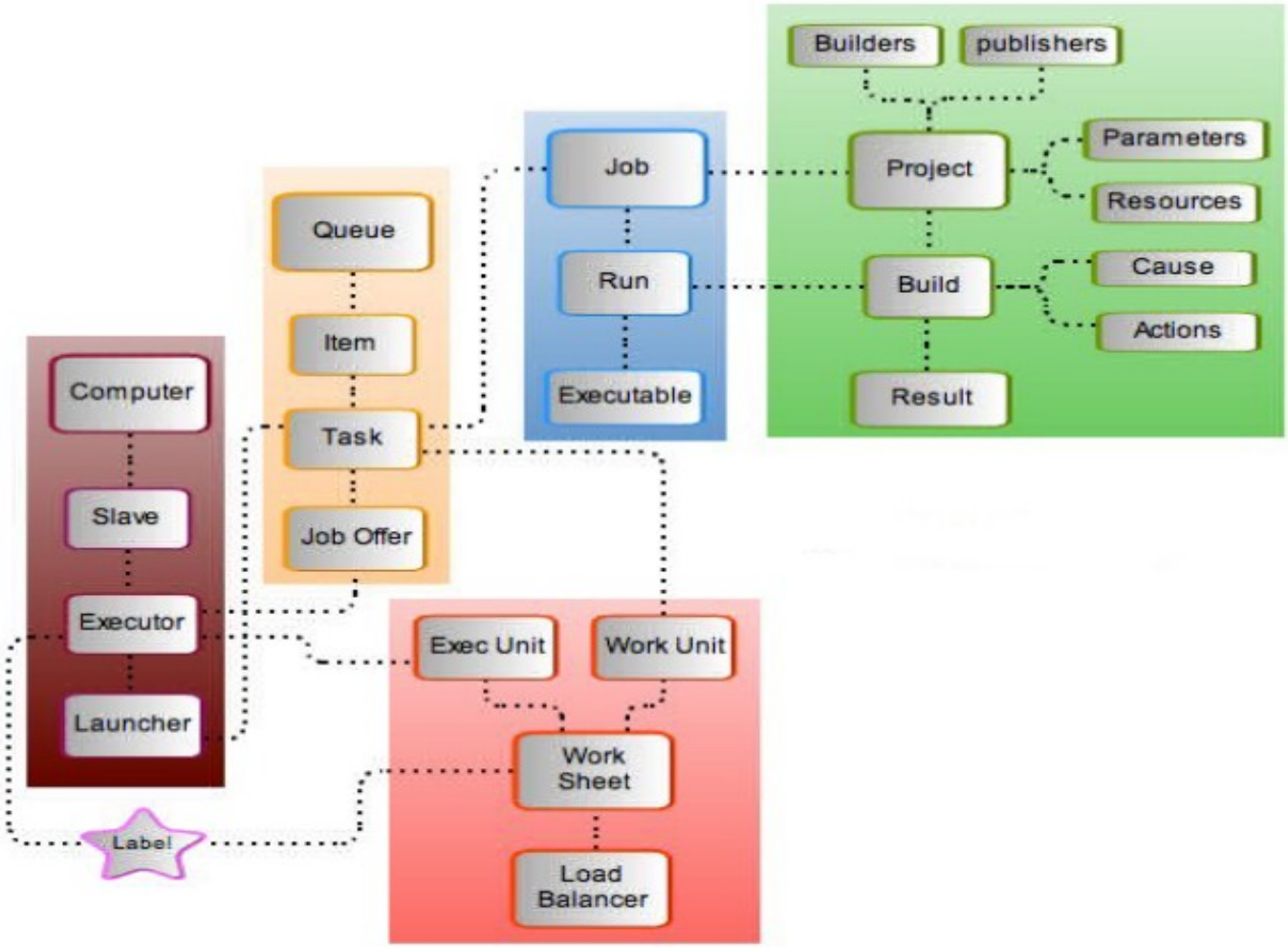
Rules and Process Integration

- *RuleSet:* Evaluating a set of rules in your process (= local decision service)
- *Process Rules*: Data-driven constraints
- *Triggers*: Rules / events start / signal process
- *Assignment* rules
- Describing *exceptional* situations using rules
- *Modularizing* concerns using rules
- Using rules to *dynamically alter* the behavior of the process

Example: Clinical DSS

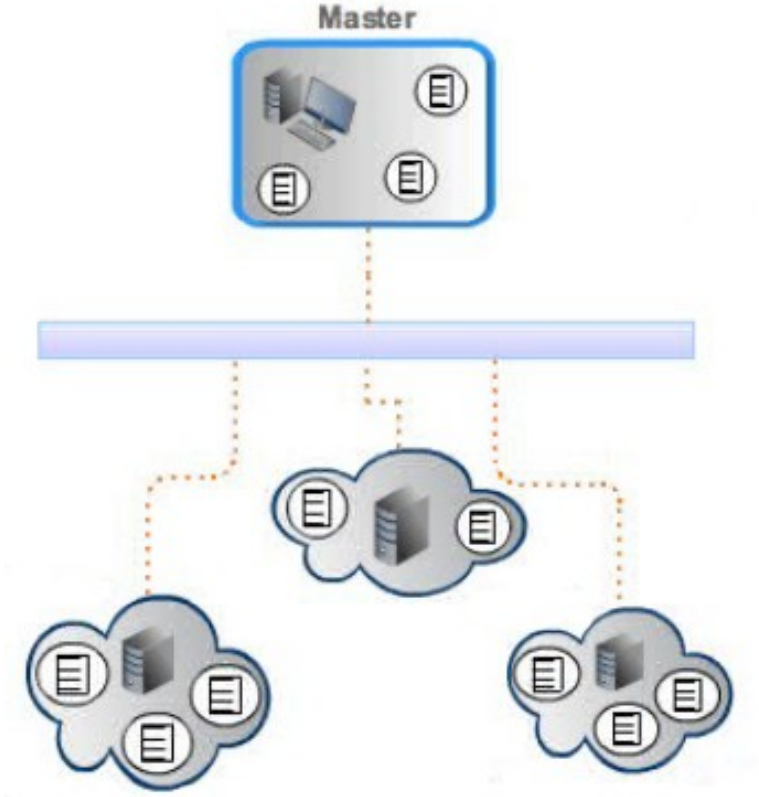


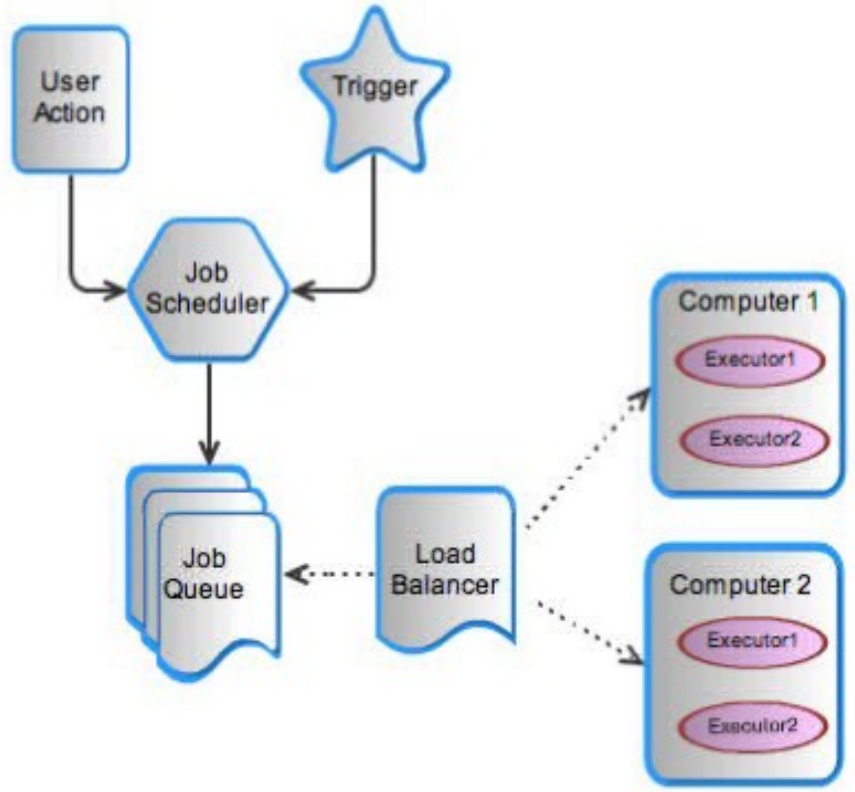
Example: Build Management



Source: Hudson Execution and Scheduling Architecture

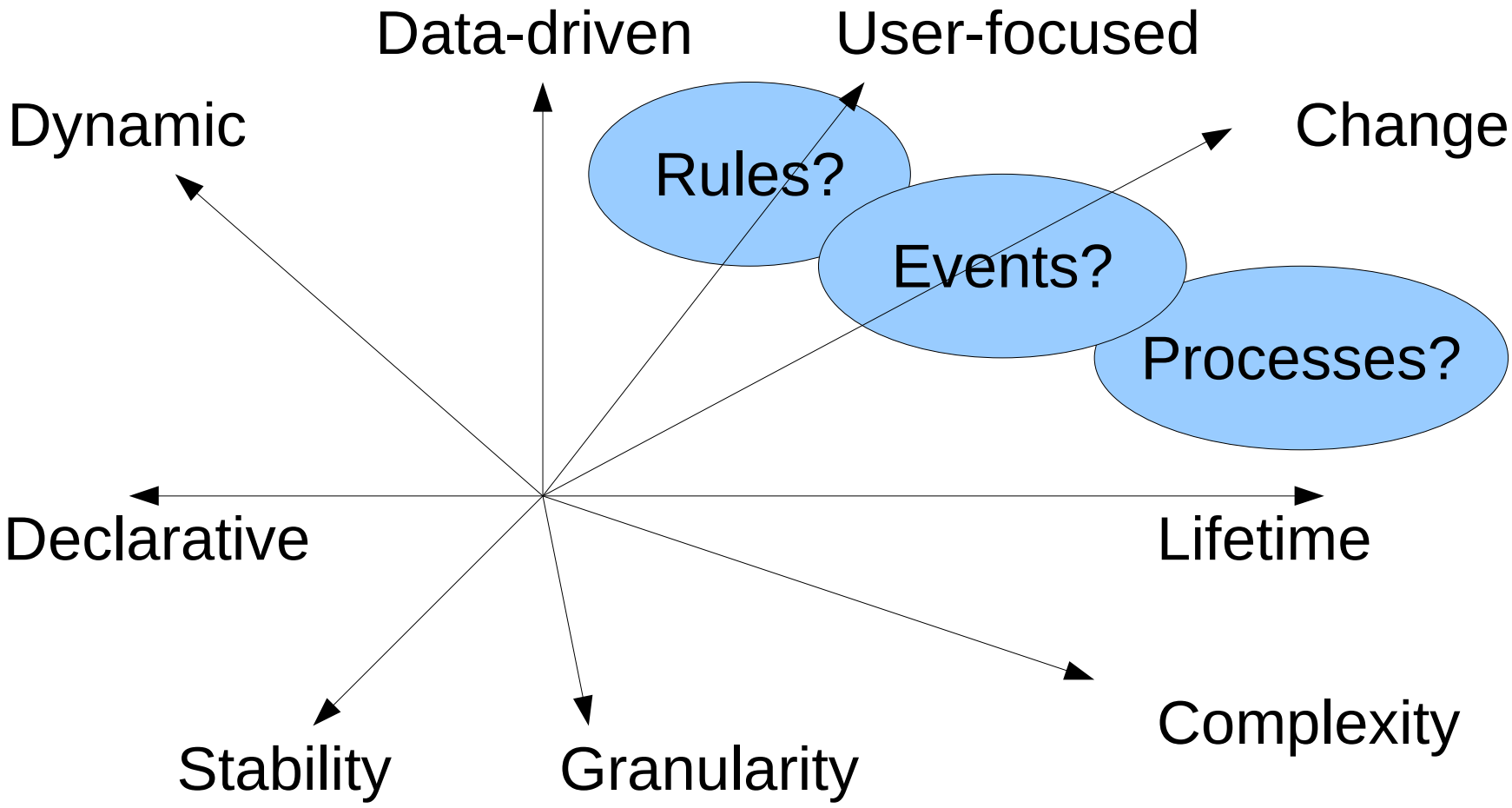
Example: Build Management





Source: Hudson Execution and Scheduling Architecture

Continuum


Data-driven
User-focused
Dynamic
Change
Rules?
Events?
Processes?
Declarative
Lifetime
Stability
Granularity
Complexity

JBoss Projects

Drools Expert

jBPM

Drools Fusion

Guvnor

jBPM5: What, where?

- jBPM home page
- Source http://github.com/droolsjbpm/jbpm
- Hudson http://hudson.jboss.org/hudson/job/jBPM
- Blog http://kverlaen.blogspot.com/
- #jbpm on irc.codehaus.org
- jbpm-dev@jboss.org
- jBPM user forum

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