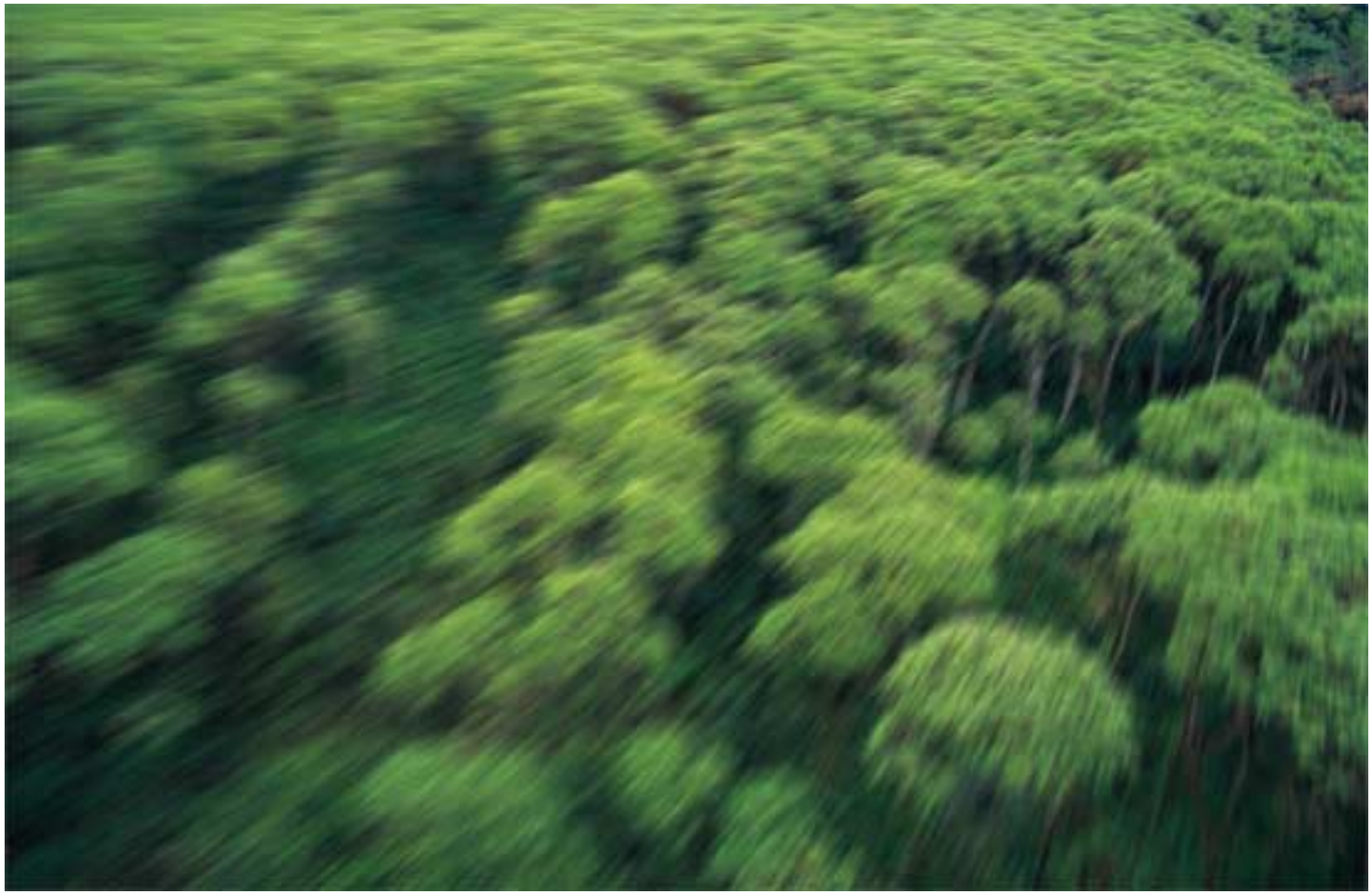
# Complex Event Processing:
# Framework for Operational Visibility and Decisions

*How TIBCO® BusinessEvents Manages Complexity in Healthcare*

# Traditional Interface Engine Approach



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# With SOA You Start to See The Data

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# Do you see the forest, the trees and the opportunity?

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# SOA Benefits Realized With Complex Event Processing

## TIBCO & Harvard Pilgrim collaboration:

Standardization makes it possible to track and report multiple transactions and their statuses across various roles – speeding up response times and increasing quality of care.

Excerpt from whitepaper co-authored with Harvard Pilgrim

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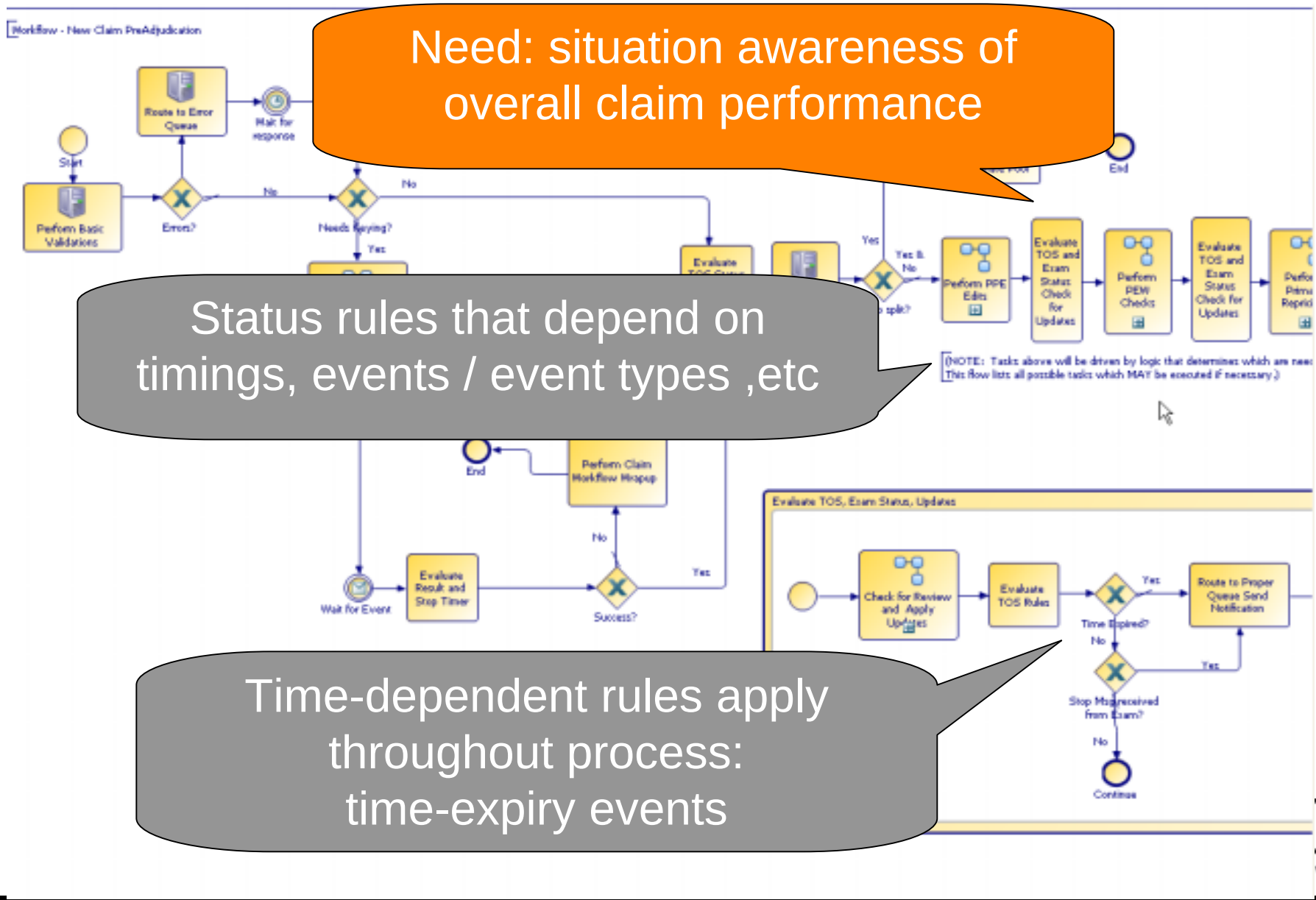
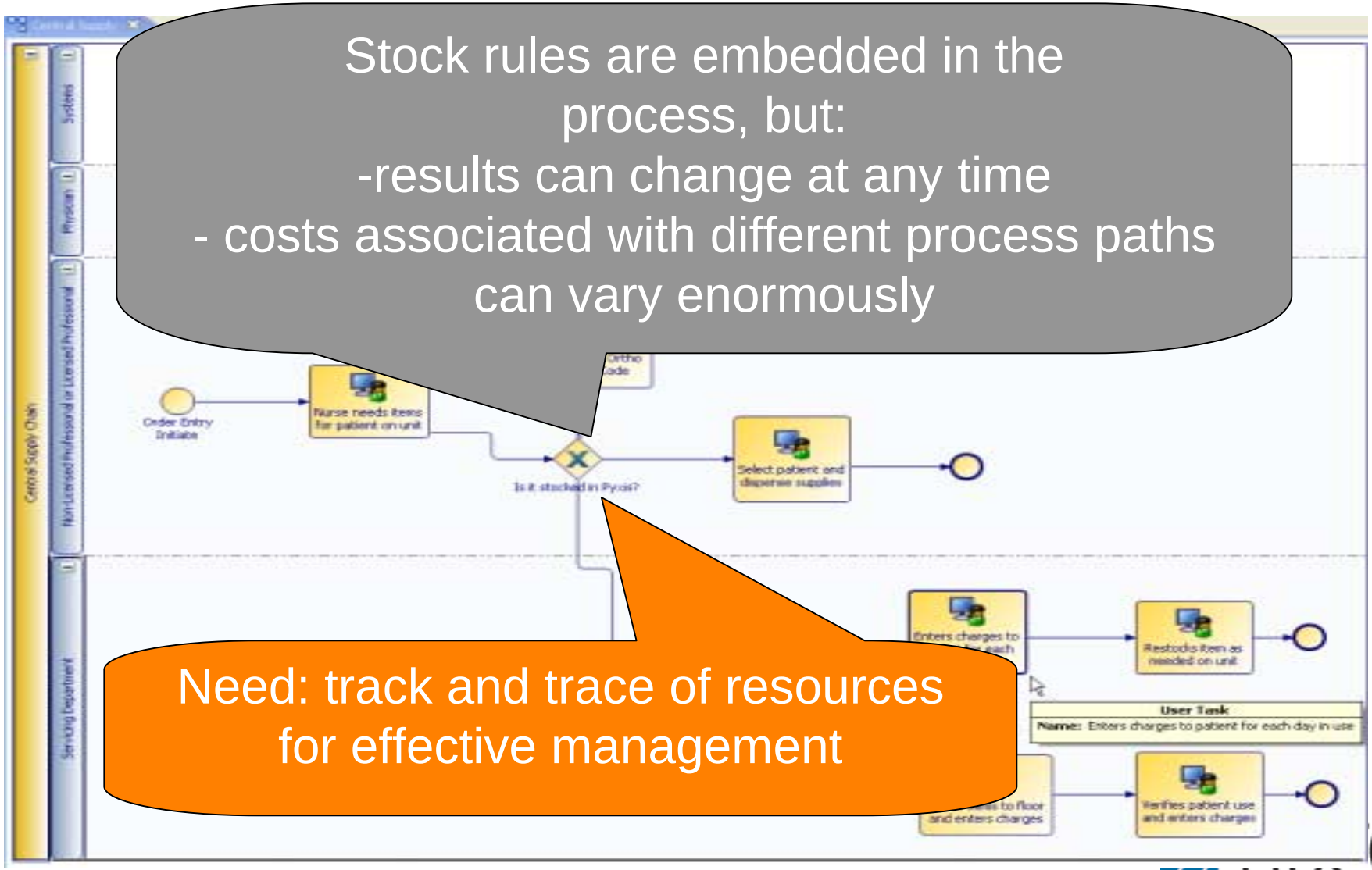
# Opportunities in Revenue Cycle Improvement



# Opportunities in Supply Chain Coordination

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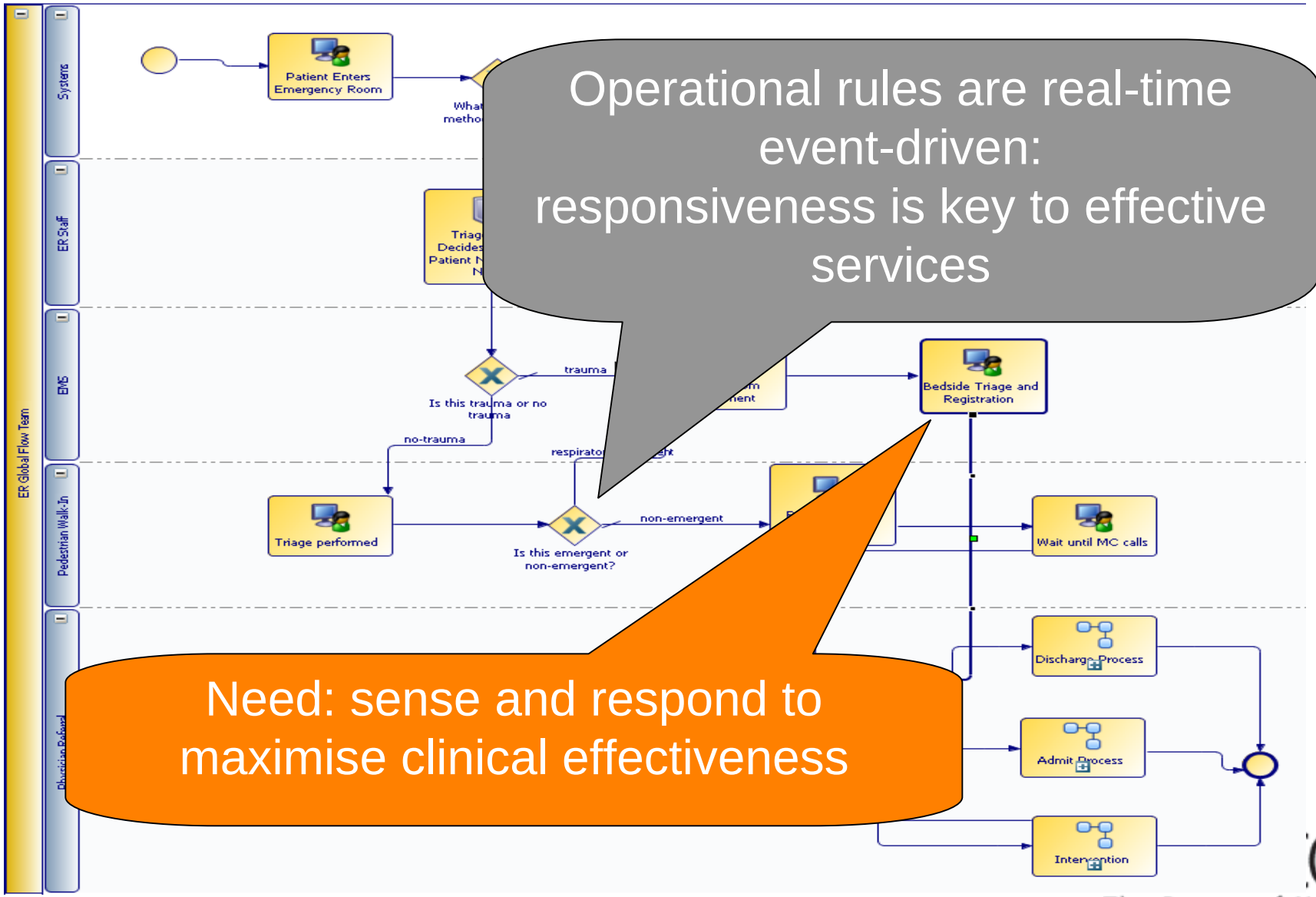
# Opportunities in Improving Patient Centric Experience

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# CEP Positively Impacts the Clinical Setting

- **Leverages and expands existing infrastructural investments**
- **Increases operational efficiencies**
- **Enables clinical insight**
  - Increases decision-making clarity
  - Reduces clinician bottlenecks
- **Optimizes patient flow**
  - Improves patient-centric quality of care
  - Ensures the patient always comes first

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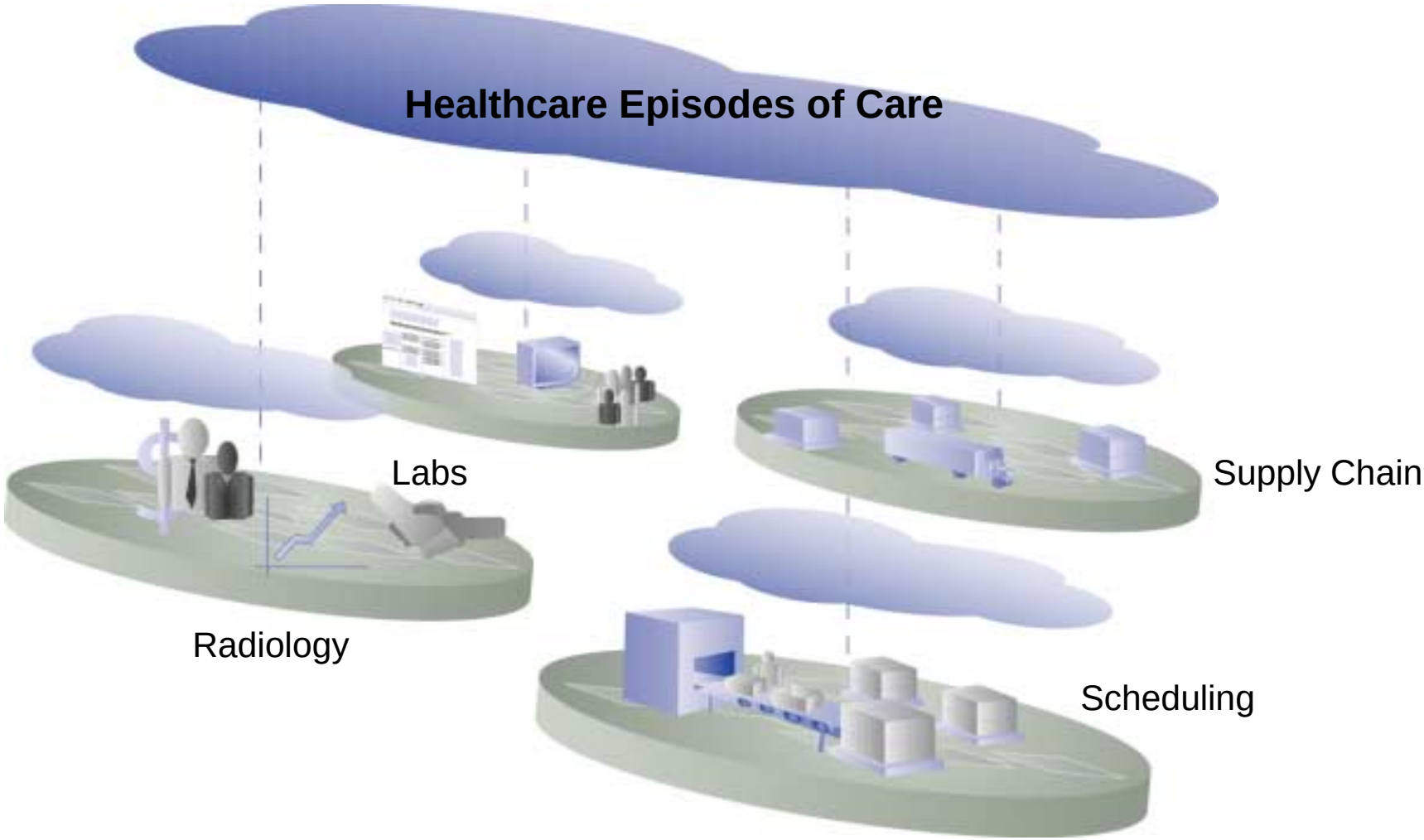
# CEP Delivers Visibility of Events Throughout the Enterprise

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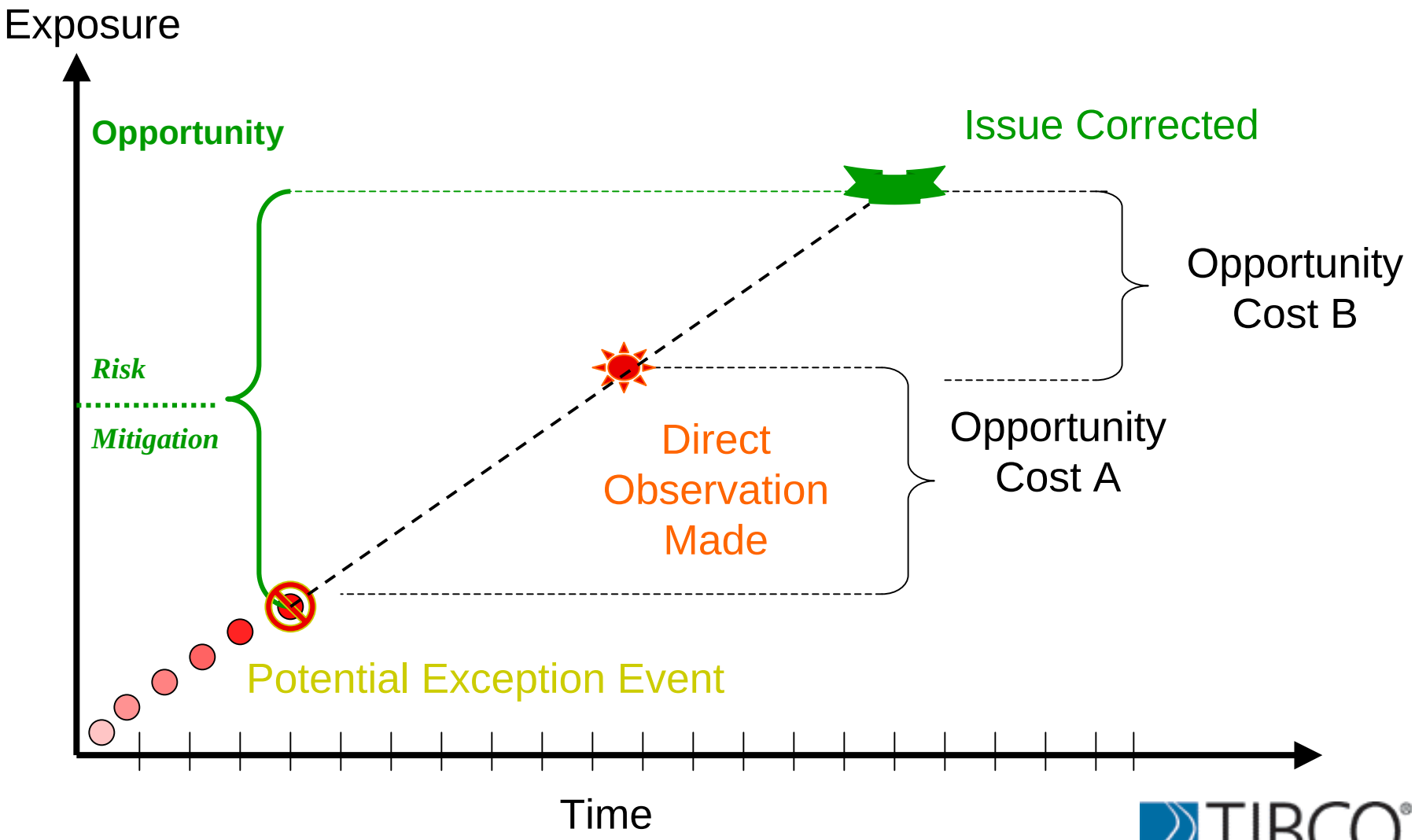
# Operational Risk Management and Detection

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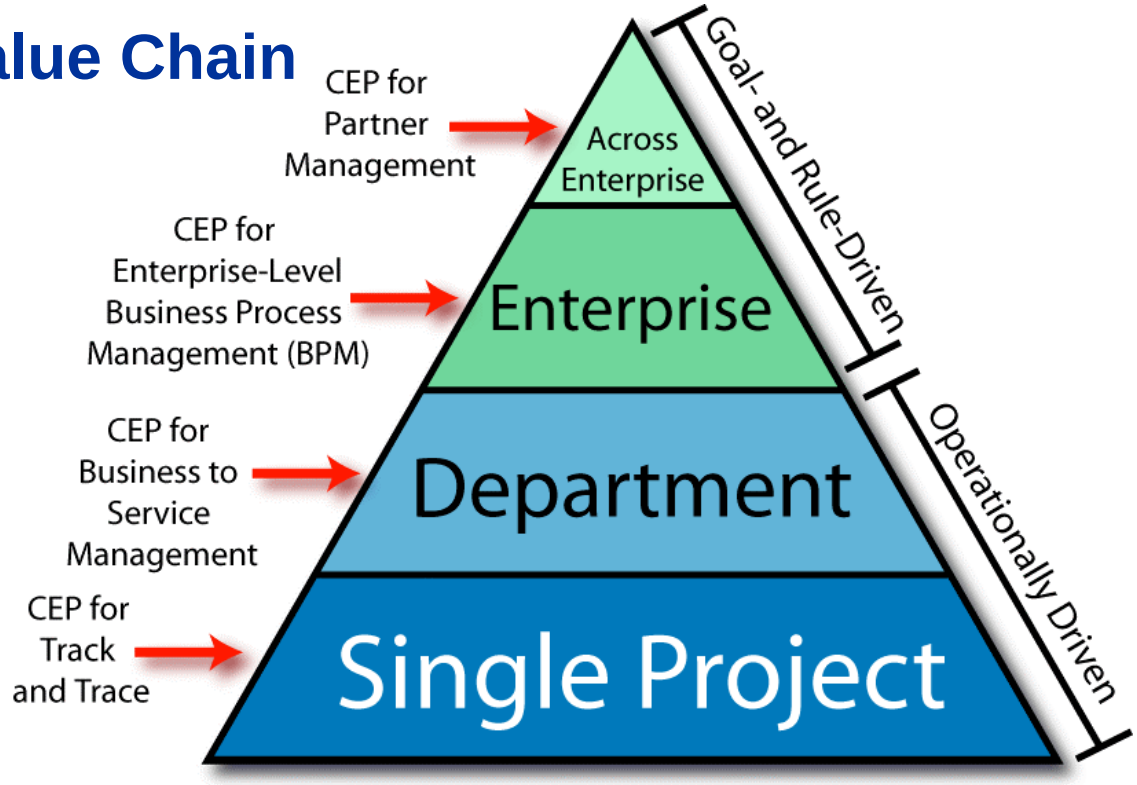
# Manage Complexity

- **Throughout the Organization**
- **Across the Value Chain**




**e.g. solutions powered by TIBCO BusinessEvents software may be deployed tactically at the single project or department-level to improve operational efficiency or strategically at the enterprise- or across enterprise-level.**

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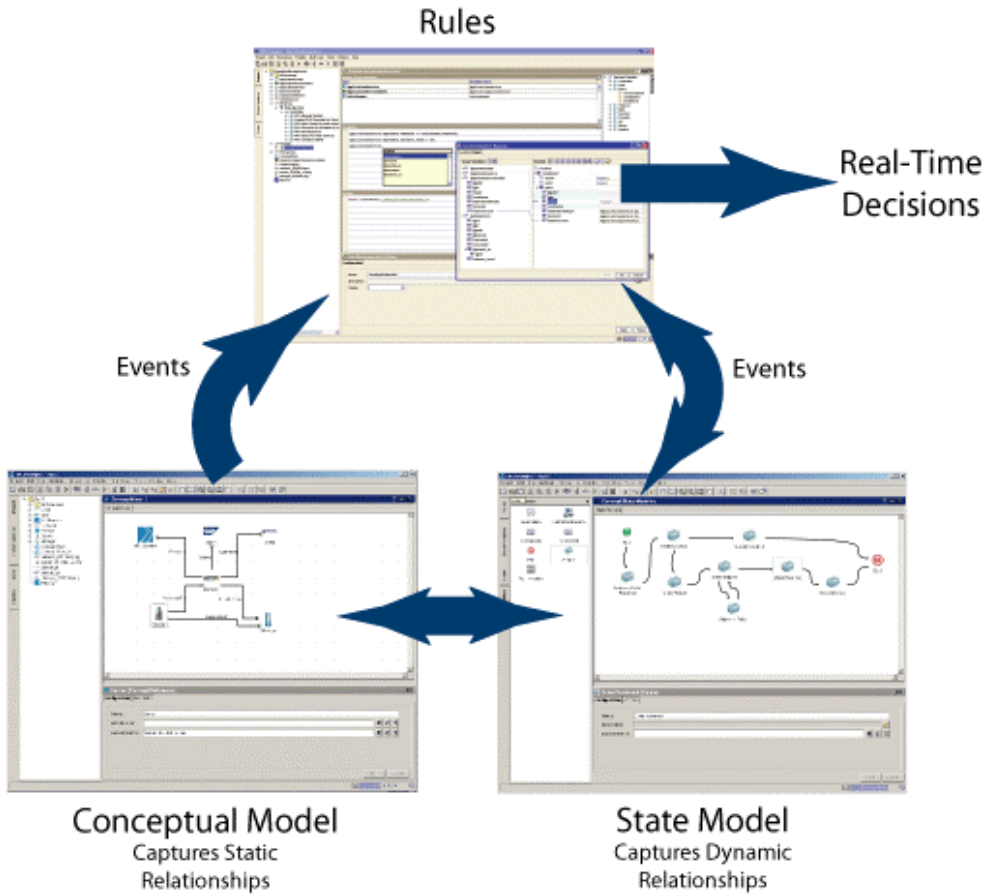
# TIBCO® BusinessEvents




**TIBCO BusinessEvents** uses a **model-driven approach** to **collect, filter and correlate** events with respective business processes and to deliver real-time operational insight enabling timely, well-informed **decisions**.

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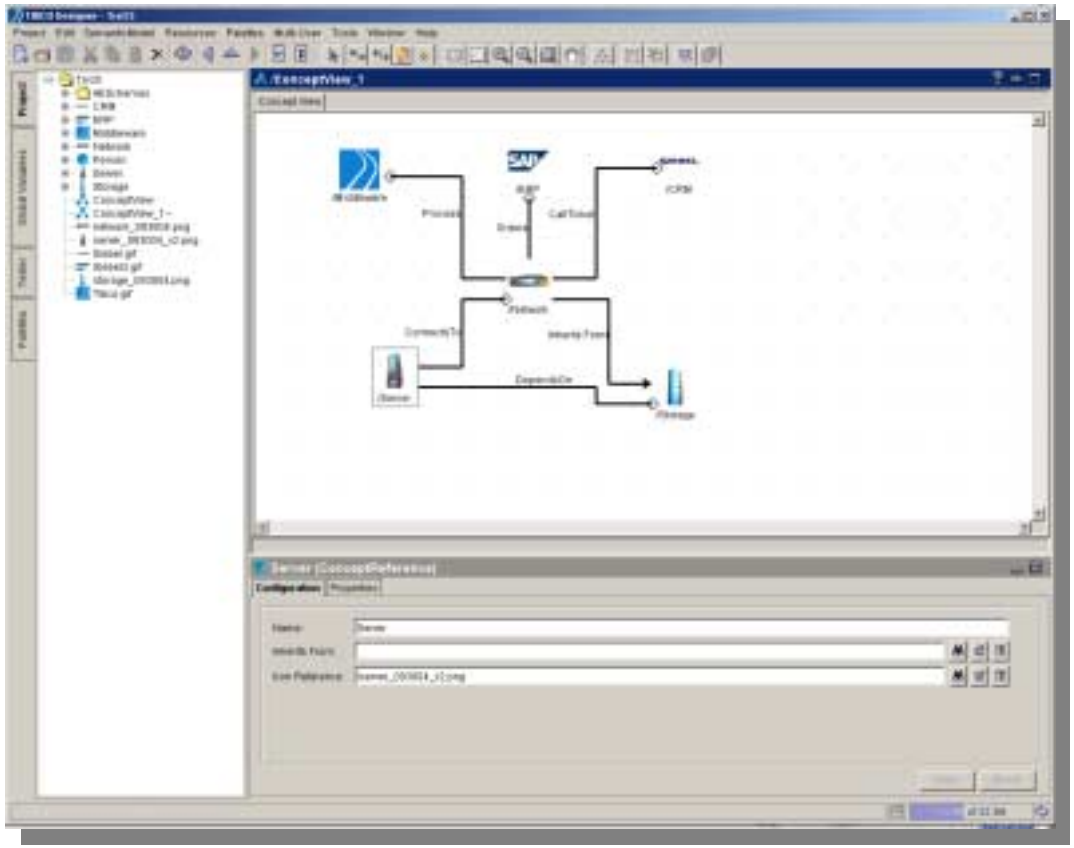
# Conceptual Model



- Define sources of events
- Identify classification schemes for events and data
- Standards-based (UML Class diagram)

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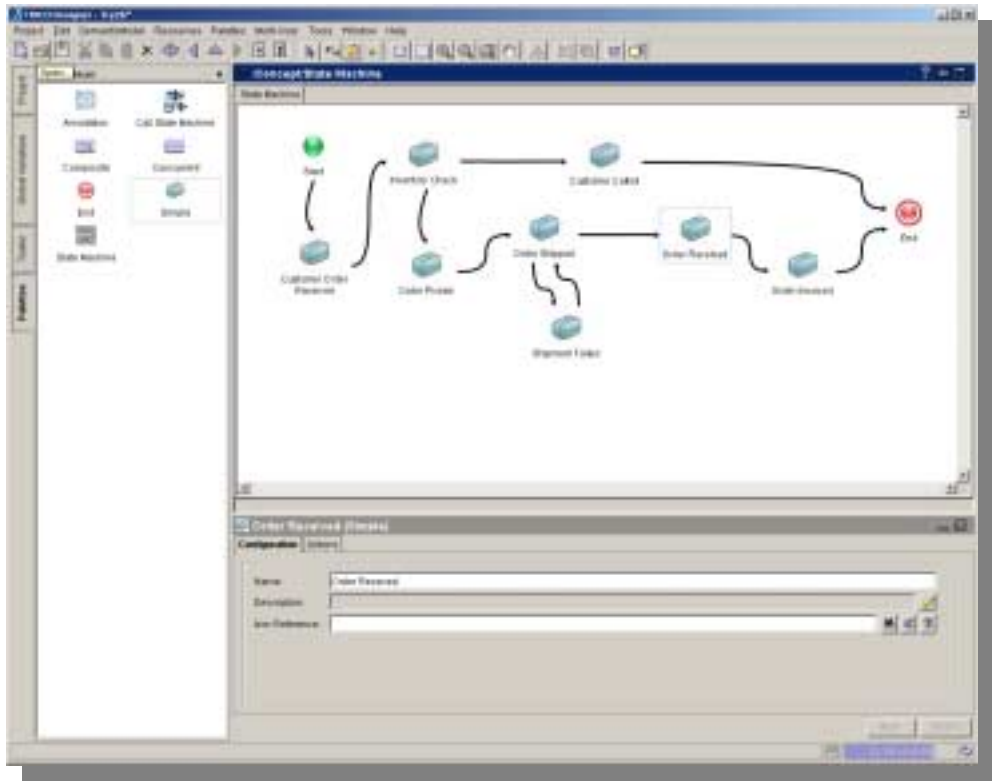
# State Model



- Describes how concepts change across processes
- Define possible outcomes for particular concepts and processes
- Standards-based (UML State Diagram)

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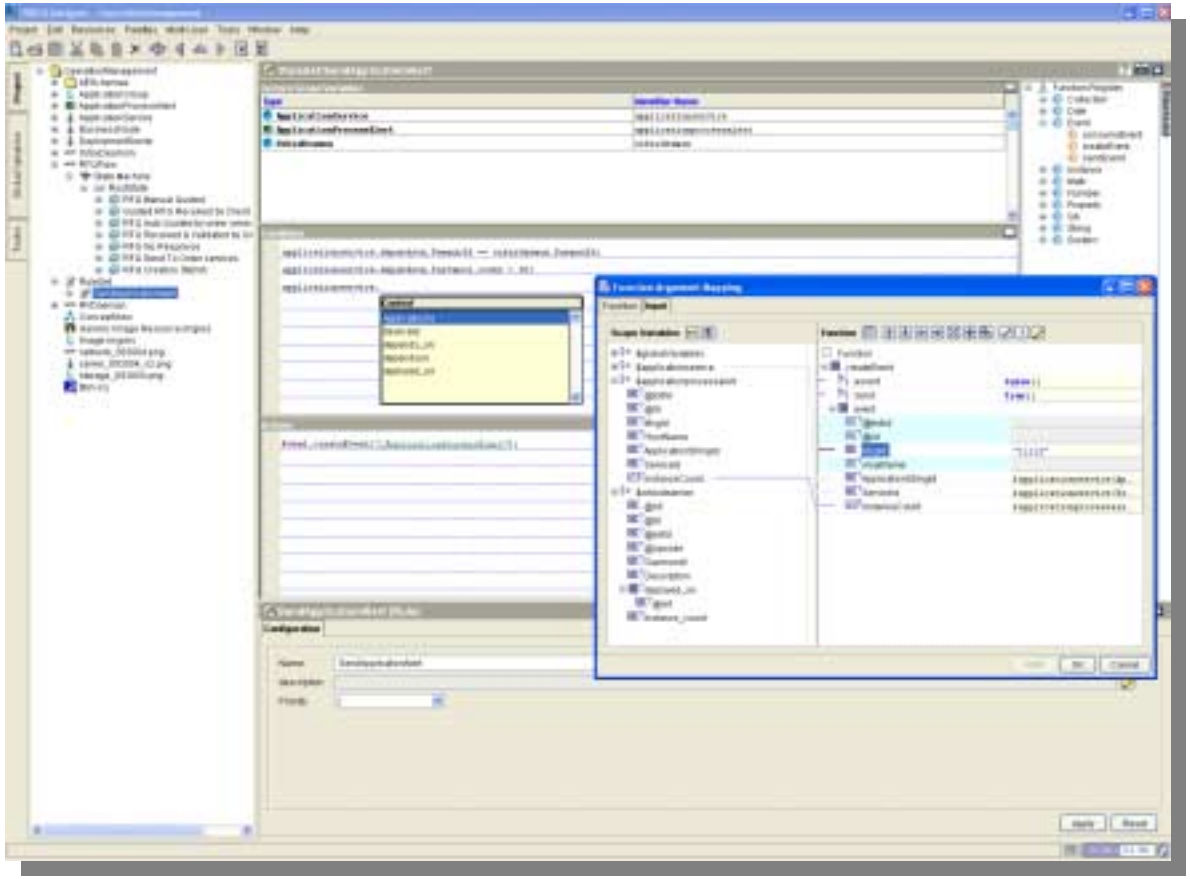
# Rules Editor



- Define behavioral relationships between different events / data
- Specify the event(s) to monitor, the condition on which the event is important, and the result/action to be taken
- Standards in development (e.g. UML PRR)

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# Existing CEP domain areas

- **Situation Awareness**
  - Operational management of resources, people, timeliness, queues, operational issues (dashboards, recommended actions)
- **Track and Trace**
  - Managing vaccine life based on tracking conditions stock has been subject to
- **Sense and Respond**
  - Respond to delays in handling certain data in the organization

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# Summary

- **Healthcare is all about:**
  - **Events**: recording, monitoring, actioning
  - **Decisions**: timeliness, reproducable, authorized, best
- **Healthcare IT is ideally positioned to exploit CEP to manages decisions against events**
  - Real-time / high-performance
  - Ideal for monitoring tasks, managing SLAs, business process activity monitoring, operational dashboards
  - Improves decision-making

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# Thank you for your time and interest.

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