Riva

A rigorous approach to business process definition, design, and diagnosis

Martyn Ould
Venice Consulting Ltd

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Contents

- Why ***Riva*** is needed
- Building a process architecture
- Working with a process
- Where ***Riva*** has been used
- Benefits of ***Riva***

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Business features of business processes

- They are highly *concurrent*
- They are highly *collaborative*
- They are highly *mobile*

- Any method must tackle these head-on

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The ***Riva*** method

- Has *concurrency*, *collaboration*, and *mobility* at its heart
- Uses instantiation to capture concurrency:
  - an architectural level captures the flux of process instances in the active business
  - a process level captures the flux of responsibility and thread instances in an active process instance
- Uses role interaction to capture collaboration
- Uses process and role instantiation and interaction to capture mobility

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Riva contains techniques for

- mapping the organisation as a network of processes on a *Process Architecture Diagram*
- mapping a process on a *Role Activity Diagram* for
  - understanding or defining an existing process
  - diagnosing problems in an existing process
  - diagnosing relationship between organisation and process
  - designing a new or improved process
  - defining requirements for BPMS enactment, or traditional IS support
- capturing all the concurrency, collaboration, and mobility

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We need sound foundations for business process management

- On what foundations will we build our 'process-based' organisation?
- We need a sound and robust view of what processes we have
  - 'Sound' means 'produces results reliably'
  - 'Robust' means 'is independent of decisions we make about how to run our business'
- Let's call that sound foundation the 'process architecture' of the organisation

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Process architecture

- A picture that tells us
  - what processes we have to be in the business we're in
  - what dynamic relationships they have
- It will underpin absolutely everything else we do
  - discovery, analysis, design, validation, integration, implementation, control, improvement

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Our process architecture should be built on a true characterisation of the business we are in

- Being in a particular business means there are certain things we must deal with
- … let's call them *Units of Work*, eg
  - a customer order
  - a clinical trial
  - a supplier
  - a product
  - a plant failure
  - a customer
  - a patient visit

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Units of work come into our business . . . and perhaps leave

- We gain a new *customer* ; one day they leave us
- A customer places an *order*; one day it is fulfilled
- A *clinical trial* is needed; one day it is completed
- A possible new *product* is invented; one day it is withdrawn from the market
- A piece of *plant fails*; one day the failure is cured
- A *casualty* enters the hospital; one day they leave (cured or otherwise)
- Of course we must define ‘fulfilled’, ‘withdrawn’, ‘cured’, etc

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Units of work imply processes

- We will need a process to handle each and every unit of work:
  - 'Handle a customer'
  - 'Handle a customer order'
  - 'Handle a clinical trial'
  - 'Handle a product'
  - 'Handle a plant failure'
- We call this the *case process*
- It is instantiated whenever the demand is generated

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Key properties of a case process

- It is by definition end-to-end
  - What is the ‘lifetime’ of a customer’?
- Inside it is where we make design decisions about
  - organisational structure
  - technology
  - culture
  - etc
- It is a natural for appropriate measurement

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As the organisation runs, units of work multiply

- A drug compound *generates* (needs) several clinical trials
  - During the life of the compound, clinical trials are started for it
- A clinical trial *generates* (recruits) many patients
- A plant failure can *generate* (require) one or more maintenance tasks
- A patient visit can *generate* (require) tests
- A customer can *generate* sales opportunities

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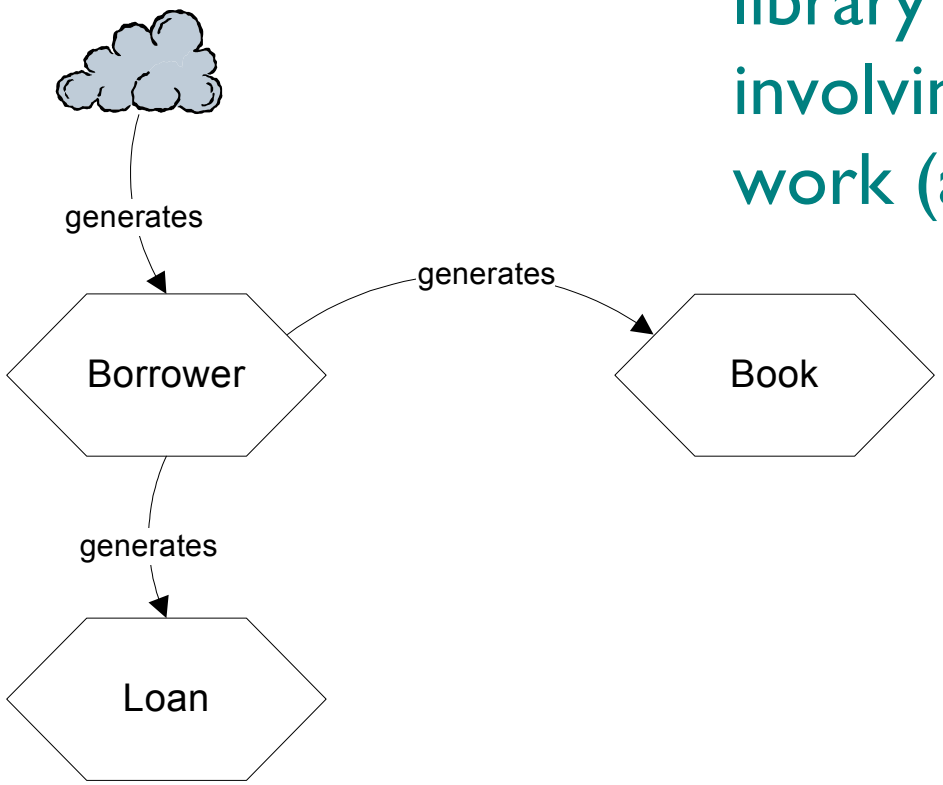
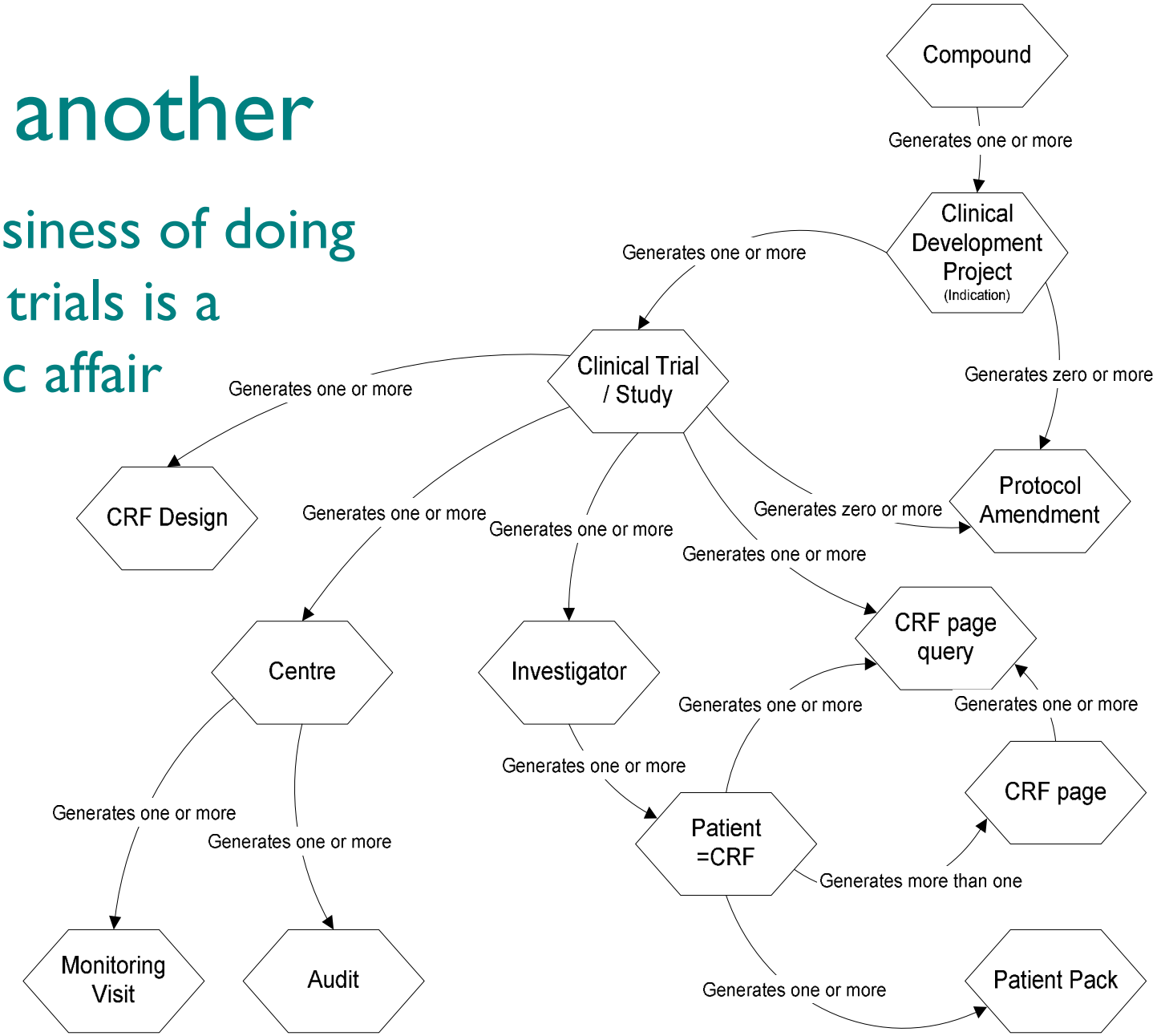
Let's draw a picture



The business of being a library is a dynamic affair involving three units of work (at a simple level)

And another

The business of doing clinical trials is a dynamic affair



All these units of work need management

- What about the scheduling, resourcing, and prioritising of all those competing cases of a unit of work?
- That's the *case management process*
- Examples:
  - 'Manage the flow of products'
  - 'Manage the flow of orders'
  - 'Manage the flow of deliveries'
  - 'Manage the flow of production batches'

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Properties of a case management process

- It concentrates all the resourcing, scheduling, and prioritisation of cases of its UoW
- It determines the efficiency of resource usage
- It contributes to the processing time of cases
- It is responsible for delay if it batches and queues

There is a third process type

- The *case process* deals with one case
- The *case management process* deals with the flow of cases – short and medium term management
- Where do we take the long view?

- In the *case strategy process* – one per UoW
- For example:
  - 'Take a strategic view of customer calls'
  - 'Take a strategic view of plant failures'

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Properties of a case strategy process

- It encapsulates the organisation's strategic thinking about how a given UoW is dealt with
- It is where trends are observed and acted on
- It is where process improvement happens
  - It can change and control the case process and the case management process
- It might generate new cases of its UoW
  - 'Take a strategic view of products' might decide on some new products

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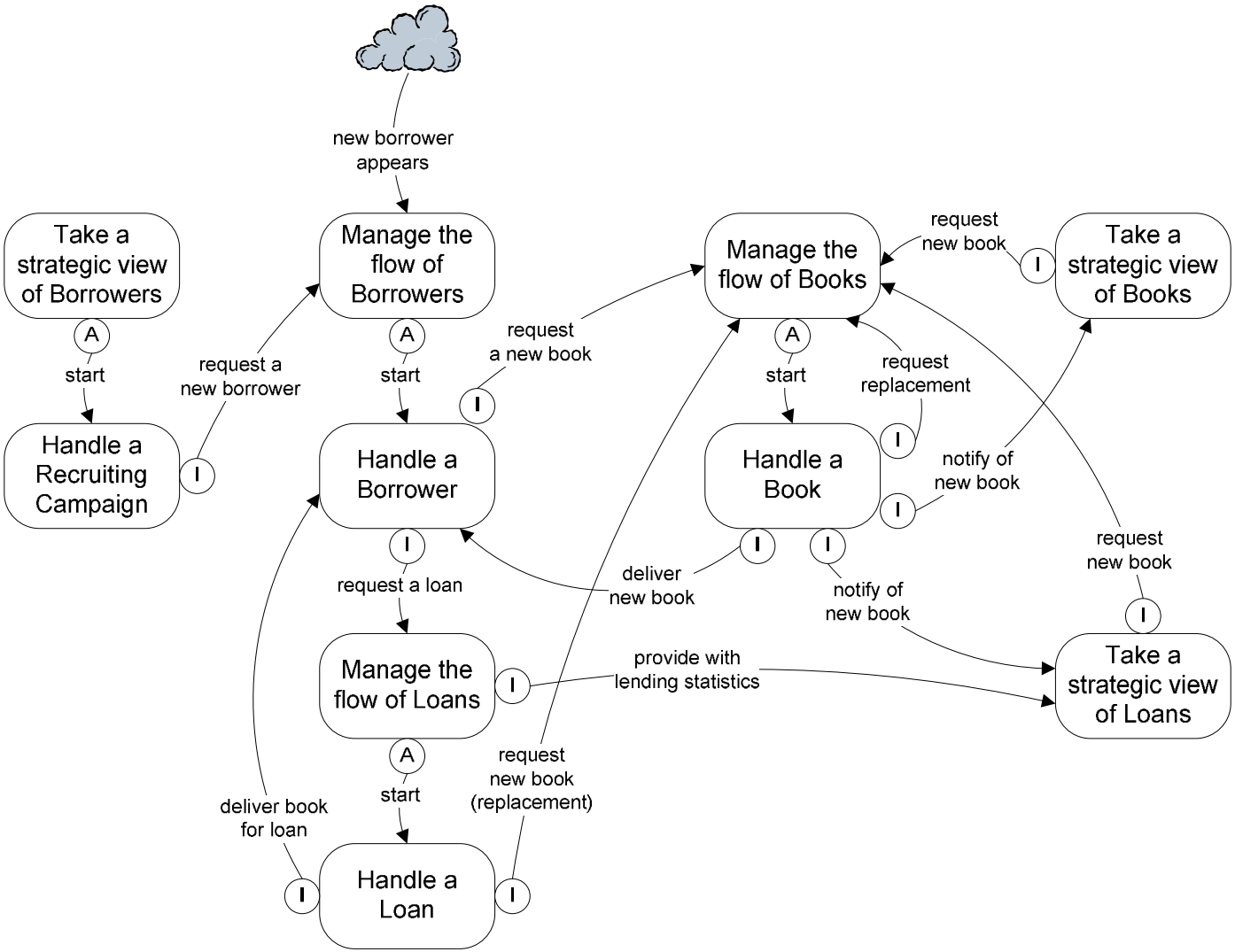
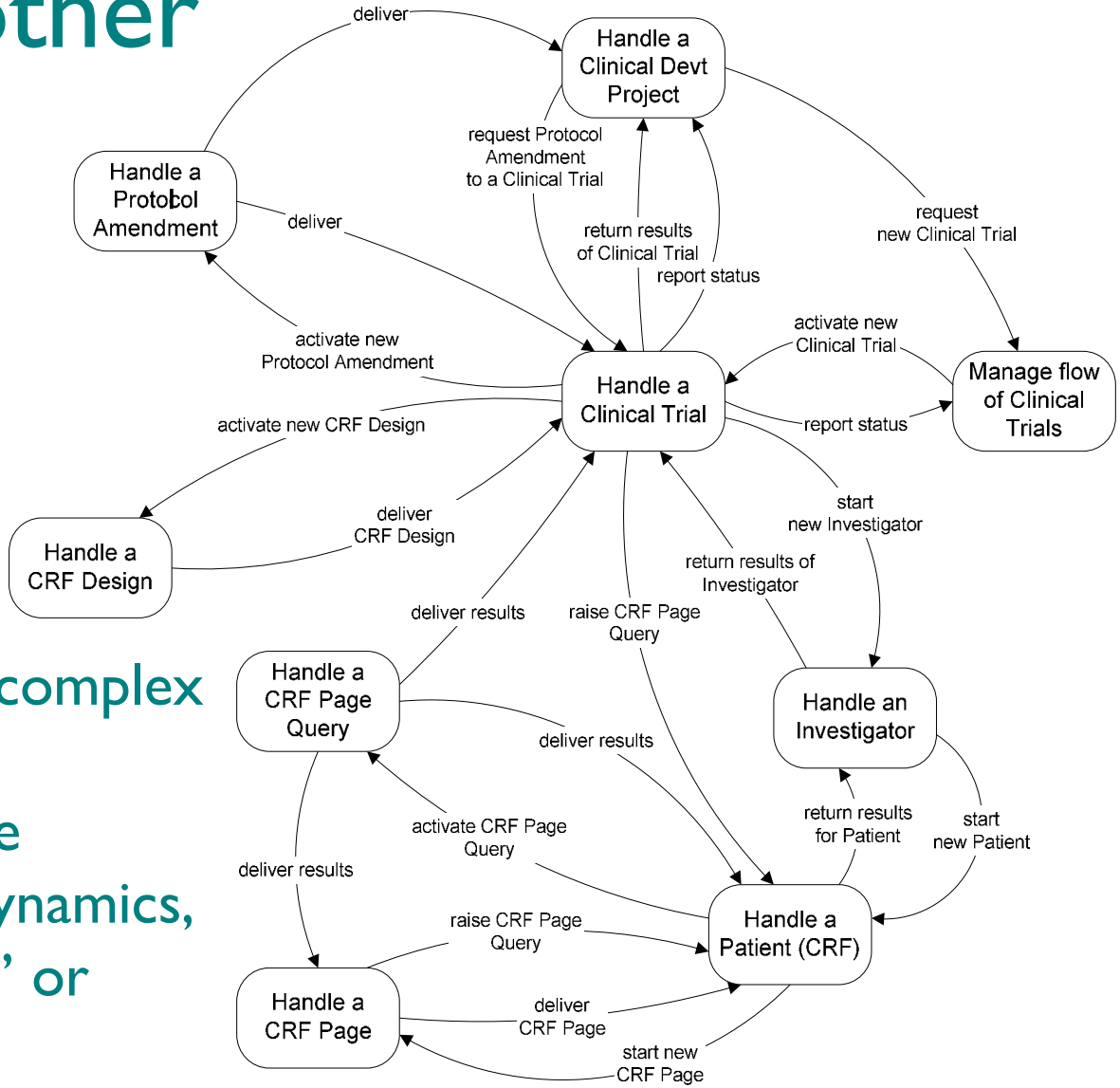
The process architecture can be derived directly from the UoW Diagram

- A ‘generates’ relationship between two units of work implies a set of relationships between (principally) their case and case management processes
- From the UoW Diagram we can therefore draw a process architecture *directly*
- We call this the ‘first-cut’ architecture
- This is then refined to produce a ‘second-cut’

Here's the 'second-cut' architecture for the library



Here's another



Yes, things are this complex in reality. This *Riva* process architecture captures the true dynamics, not just a glib 'chain' or hierarchy.

‘Essential’ or ‘Designed’?

- The ‘essential (of the essence) UOWs characterise the business of our organisation
- When we design how our organisation works, we also *invent* units of work:
  - Invoice
  - Batch
  - Monthly sales return
  - Expense claim
- We can challenge these ‘designed’ units of work
  - Can we do without them?
  - Can we achieve the same in another way?
  - Do they just reinforce silos?
  - Do they create dysfunctional behaviour?

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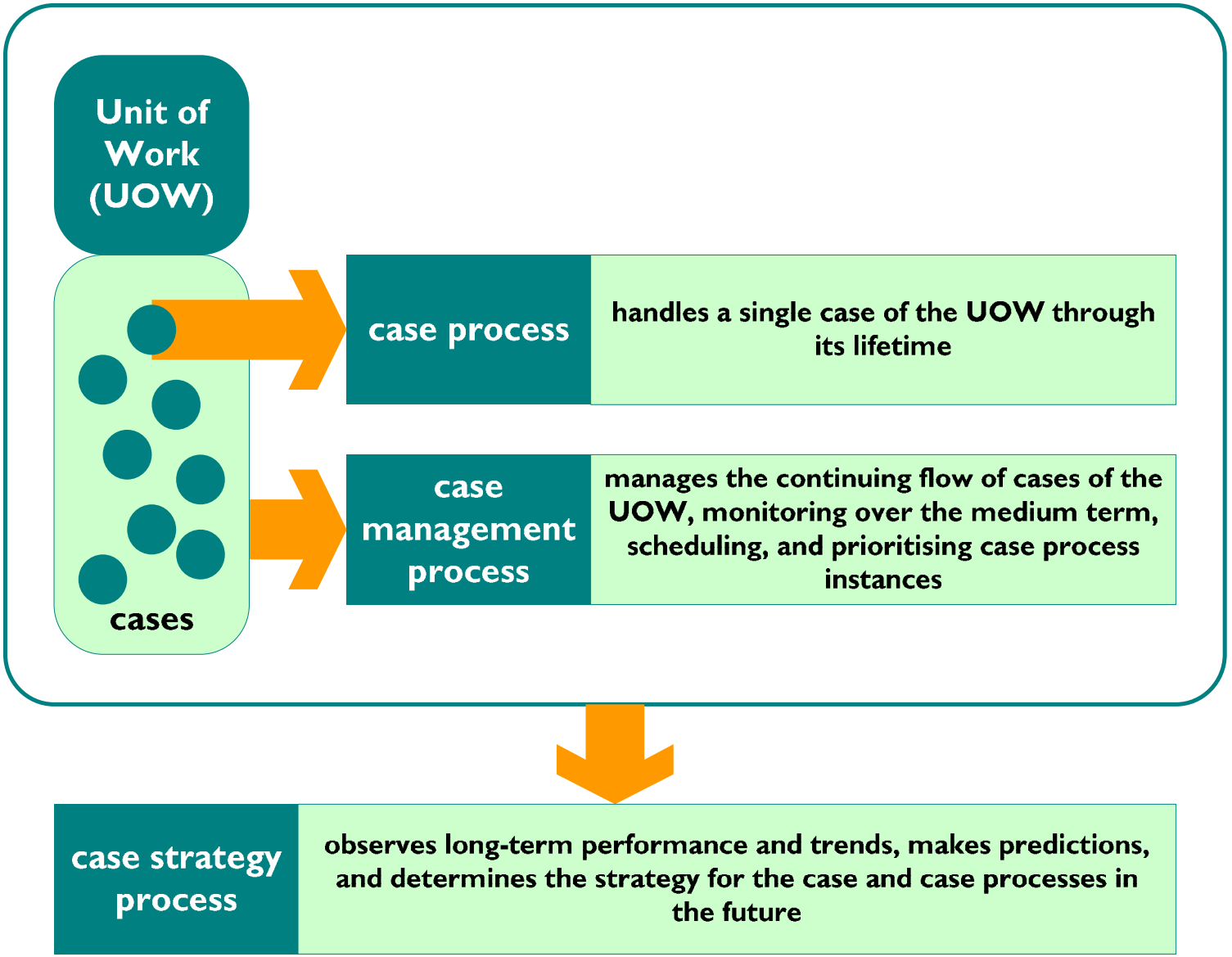
The process trinity



For a rigorous approach think ‘networks’

- Your organisation is a *network* of processes
- As it runs,
  - there is a flux of case processes
  - under the control of a set of case management processes
  - all under the strategic eye of a set of case strategy processes
- Forget the myth of chains and hierarchies

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Benefits of a *Riva* process architecture

- It is a sound – and constant – basis that is
  - derived only from the business the organisation is in
  - independent of how the organisation is structured
  - independent of the culture of the organisation
  - 'reengineering-proof'
- It provides the necessary chunking of all the organisational activity into separate processes
- It takes a true end-to-end view of case processes
- It gives equal importance to management processes and the interfaces they represent, and where hidden delays may be found
- It highlights concurrency that is or could be achieved, and hence where cycle time gains may be won or lost
- It exposes processes that are only there because we have designed new (and perhaps superfluous) units of work

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Working with individual processes

- Once we have chunked the organisational into processes through our process architecture we can address individual processes:
  - discovery
  - definition
  - design
  - diagnosis

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A process is a network of interacting roles

- A ***Riva*** process model chunks a process as a network of collaborating *roles*
- Each role is a (set of) business responsibilities
- A role can be
  - permanent: Head of R&D
  - transient and hence instantiated: the responsibility for project safety
- Roles interact to collaborate

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A role is a network of actions and interactions

- A role is a network of *threads* of actions and decisions, interspersed with interactions with other roles
- A ***Riva*** process model captures
  - collaboration as interactions
  - the way responsibilities are allocated to roles
  - the concurrency of activity
  - the ordering of actions, interactions, and decisions
  - triggers, outcomes, and goals
  - rework, failure points, exception conditions

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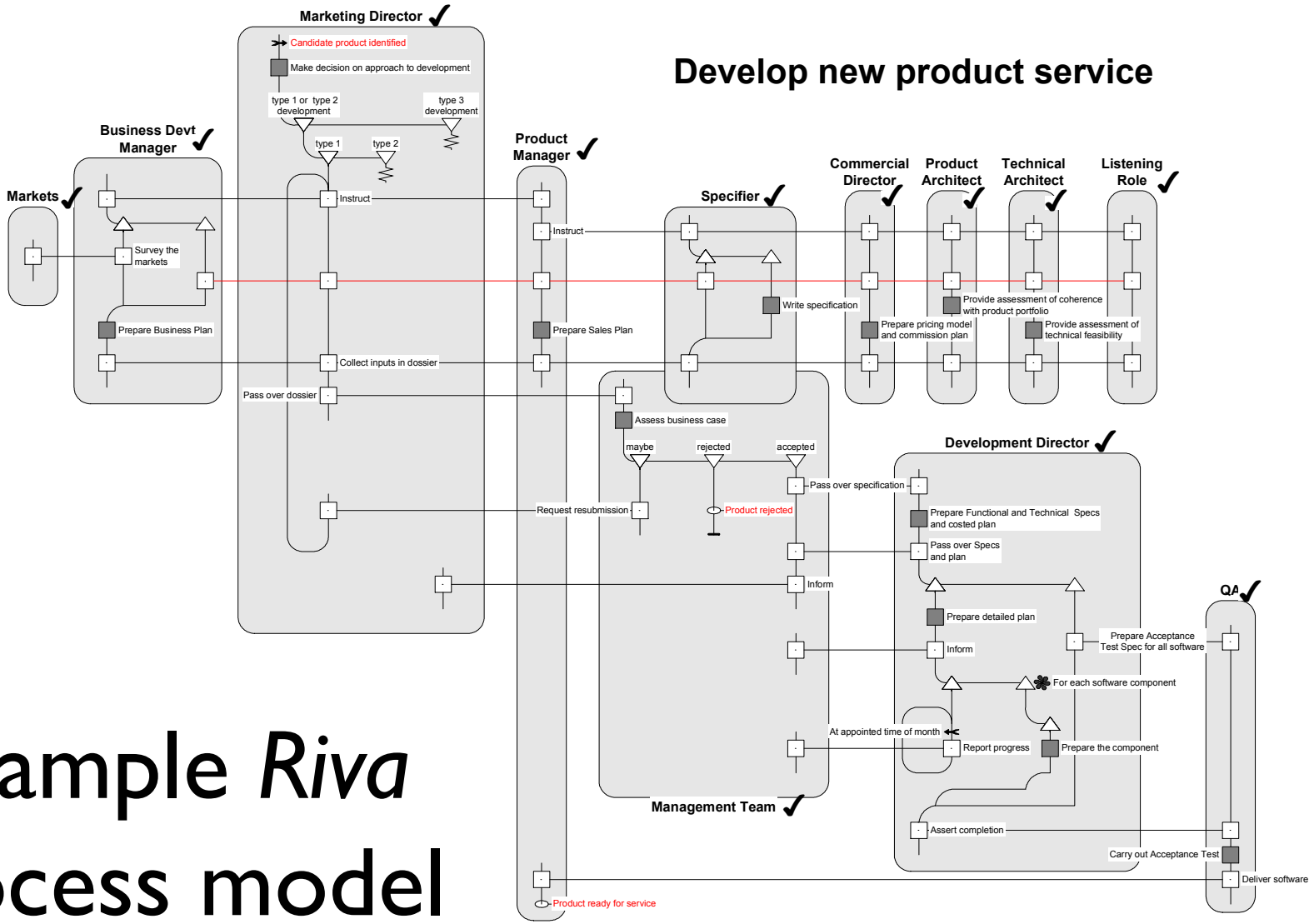

A sample *Riva* process model

(Note that any process model, including this one,
is drawn for a particular purpose, to answer a specific question)

Benefits of a *Riva* process model

- It correlates responsibilities with organisational entities
- It exposes the collaboration in the process – good or bad
- It shows concurrency at the role instance level
- It highlights within-role concurrency, where cycle time gains may be won or lost

- NB: these are all business concerns

Riva has been used, for example,

- To design the virtual organisation by which innovations get into the NHS
- To understand an engineering consultancy
- To design the processes for a new utilities organisation operating in a newly defined regulatory role
- To diagnose processes in the pharmacy of a pharmaceutical R&D company
- To define a university faculty's course administration
- To design a new organisation for a local council
- To design new processes for change management in a complex organisation

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The benefits of using *Riva*

By concentrating on the right things, it is

- business-focused
- thorough
- quick
- productive

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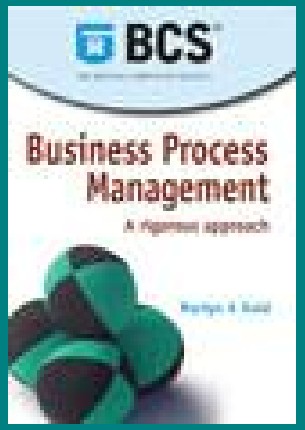
For the full story of *Riva*, read

Business Process Management
A Rigorous Approach



by Martyn Ould
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and Meghan-Kiffer (North America)

web www.veniceconsulting.co.uk
email mao@veniceconsulting.co.uk
phone +44 (0)1225 723 822
skype veniceconsulting

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