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Integrating BPM and SOA Using MDA
A Case Study

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Overview of Voyant

- H.Q. West Chester, PA
- Business Advanced Enterprise IT Consulting
- Clients Global 1000
- Focus Technology Transitions
- Technologies MDA, SOA, BPM
- Capabilities Architecture, Process, Modeling, Program Mgmt.

Case Study Background

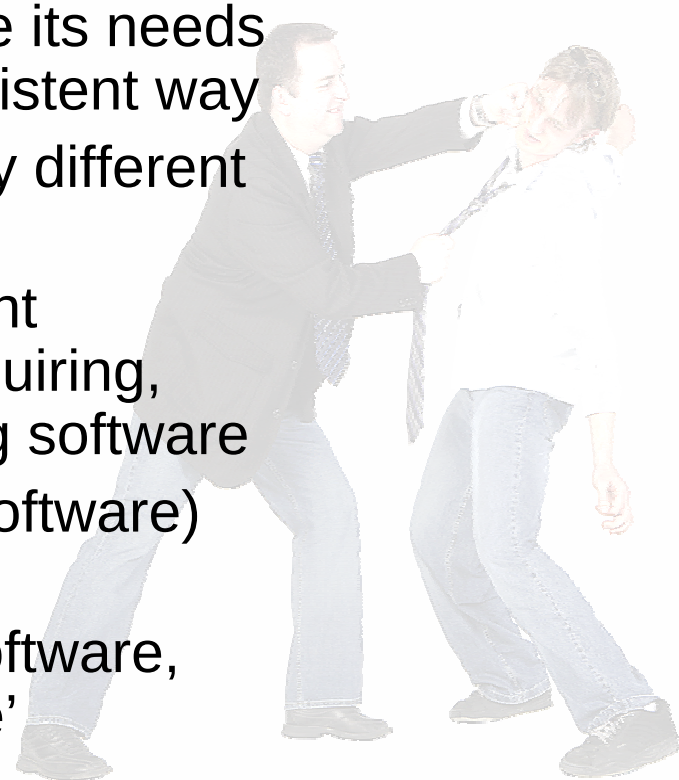
- Nationwide healthcare conglomerate
  - 5K+ developers spread across many organizational units and geographic sites
  - Hundreds of legacy applications on polyglot platforms, some dating back 30+ years
  - Little common architecture or development processes; low maturity levels
  - Many competing change initiatives
    - BPM, SOA, SDLC ……

The Problem

- Rapidly changing business
  - Health care market ‘mutating’ constantly
  - Requires new kinds of products – fast!
- But….
  - Legacy systems are rigid and tightly coupled
  - No universal integrating platform or paradigm
  - IT culture is slow to respond to change
- Result:
  - Business-IT relationship under strain
  - Portfolios not well-coordinated
  - Poor integration and no reuse
  - Individual projects have high risk of failure

Contributing Factors

- Business does not describe its needs and opportunities in a consistent way
- Business and IT speak very different ‘solutioning’ languages
- IT does not follow consistent processes for creating, acquiring, integrating and customizing software
- IT projects (and resulting software) are ‘balkanized’ into silos
- Existing layers of legacy software, hardware and ‘muddleware’ compound all of the above.



Where Did They Go Wrong?

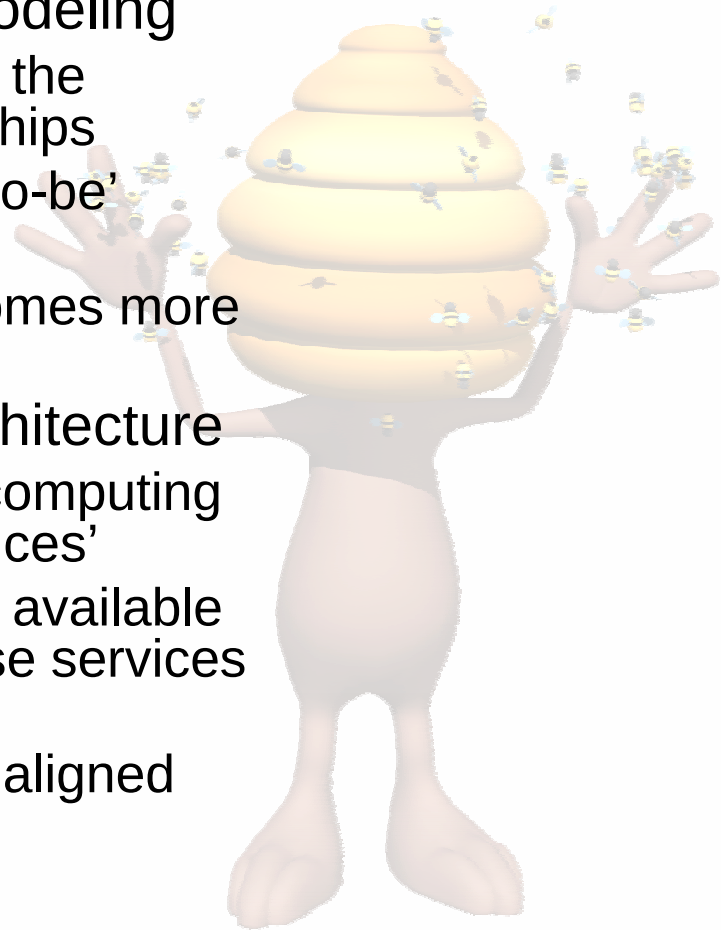
- Not for lack of trying – but too many uncoordinated initiatives
  - Top-down ‘big-bang’/‘next big thing’ with poor follow-through
- Lack of a truly ‘holistic’ and incremental approach that covers all solutioning activities
  - Focus on tools and technology, rather than process, organization and content
  - Project-centric – rather than program-centric – planning, budgeting and governance

Major Constraints

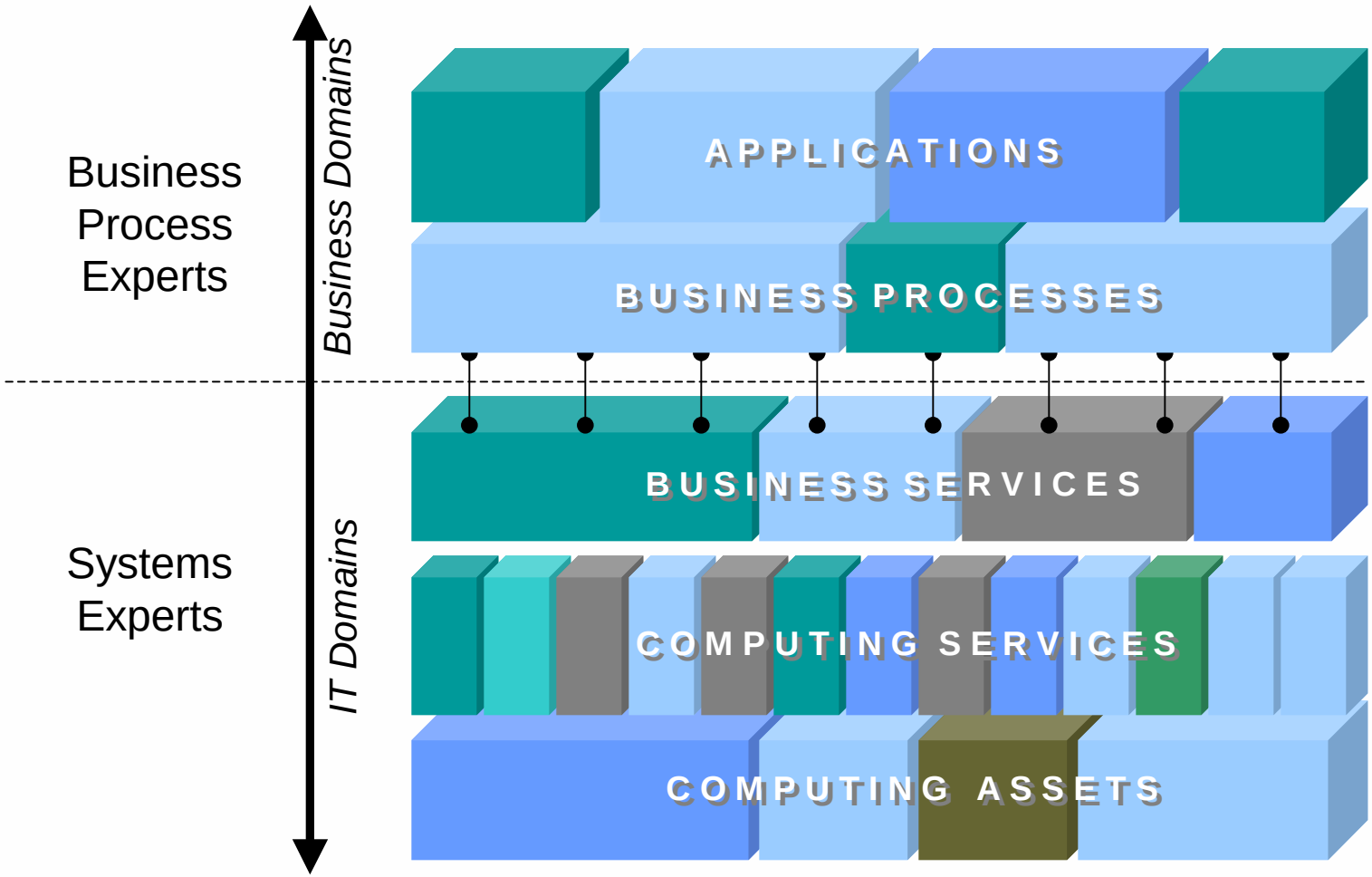
- No one tool, process, software package or vendor can provide ‘the answer’
- To be successful, any new approach needs to be iteratively customized over time
- Successfully adopting and adapting new approaches requires a well-organized and well-coordinated change initiatives

New Buzzwords

- BPM – Business Process Modeling
  - Identify the key elements of the business and their relationships
  - Use these to model ‘as-is’/‘to-be’ business processes
  - Promise: the business becomes more aligned and “agile”
- SOA – Service-Oriented Architecture
  - Break down current/future computing systems into reusable ‘services’
  - Make these services widely available on a standardized ‘enterprise services bus’ (ESB)
  - Promise: IT becomes more aligned and “agile”



BPM+SOA - The New Holy Grail?



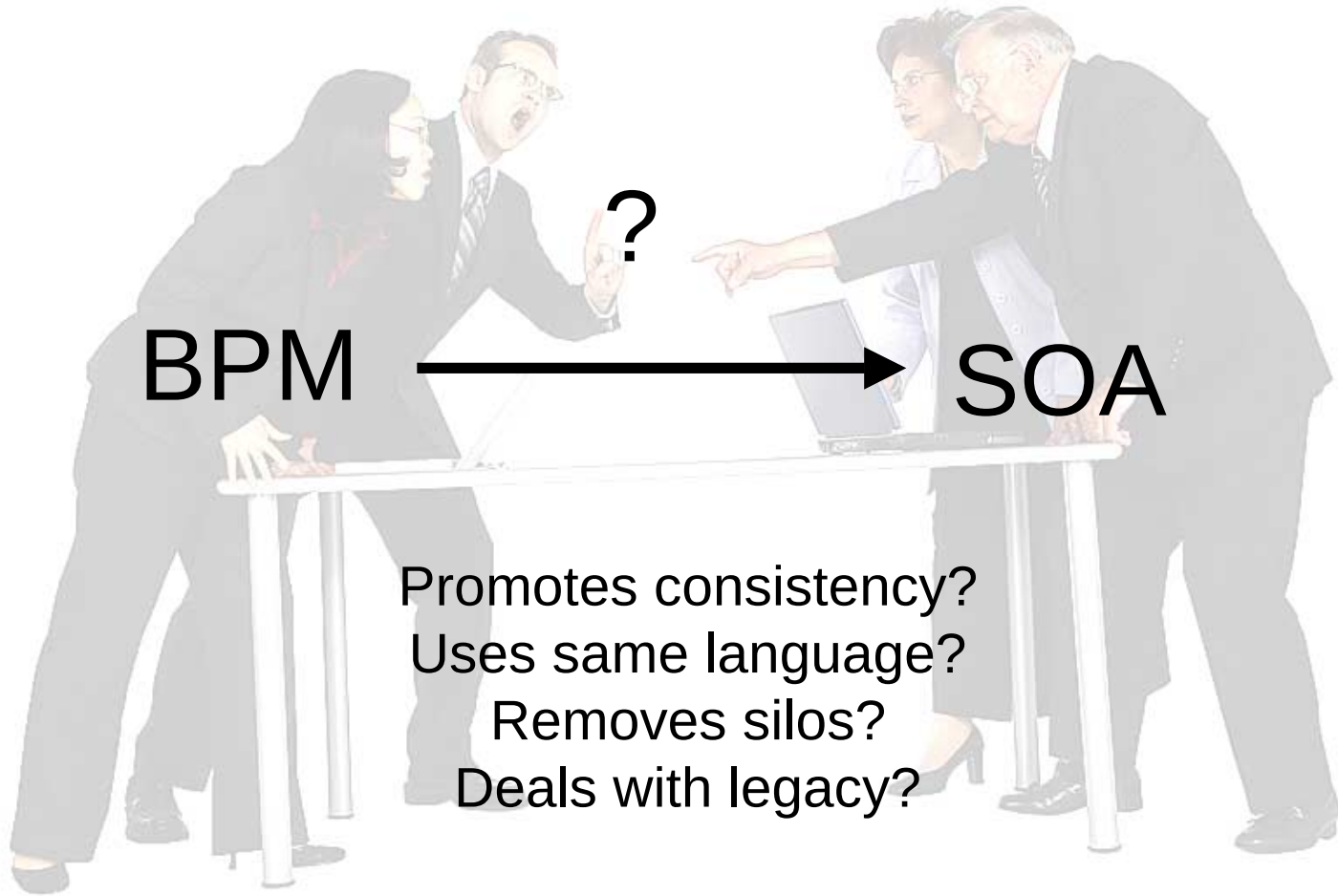
The Hope

- Much more rapid time-to-market
- Significantly improved solutions quality
- Significantly lower solutions lifecycle costs
- End-to-end traceability – requirements to deployment
- Improved portfolio management and IT governance
- Improved overall business-IT alignment

But Is This BPM+SOA Really Feasible?

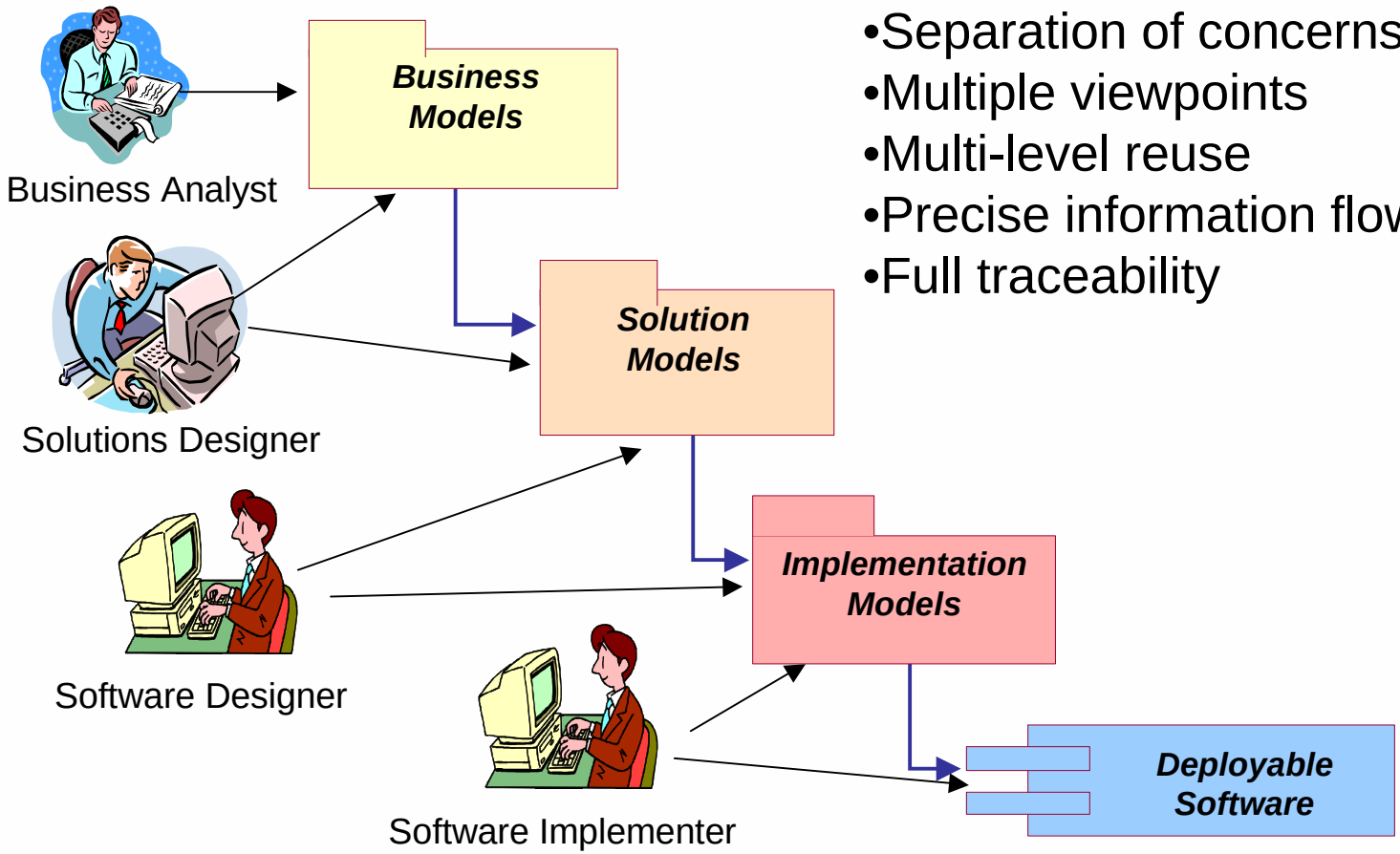
- Can all of our various business units agree on a common set of business concepts and processes?
- Can these common business elements actually be transformed into a set of executable ‘business services’?
- Can these business services readily be mapped to legacy systems?
- Are there reasonably mature tools and processes to support and manage all of the above?
- Will the new tools and processes integrate with those we already have in place?
- WILL OUR PROJECT/PROGRAM MANAGERS USE IT???

Is There A Bridge?



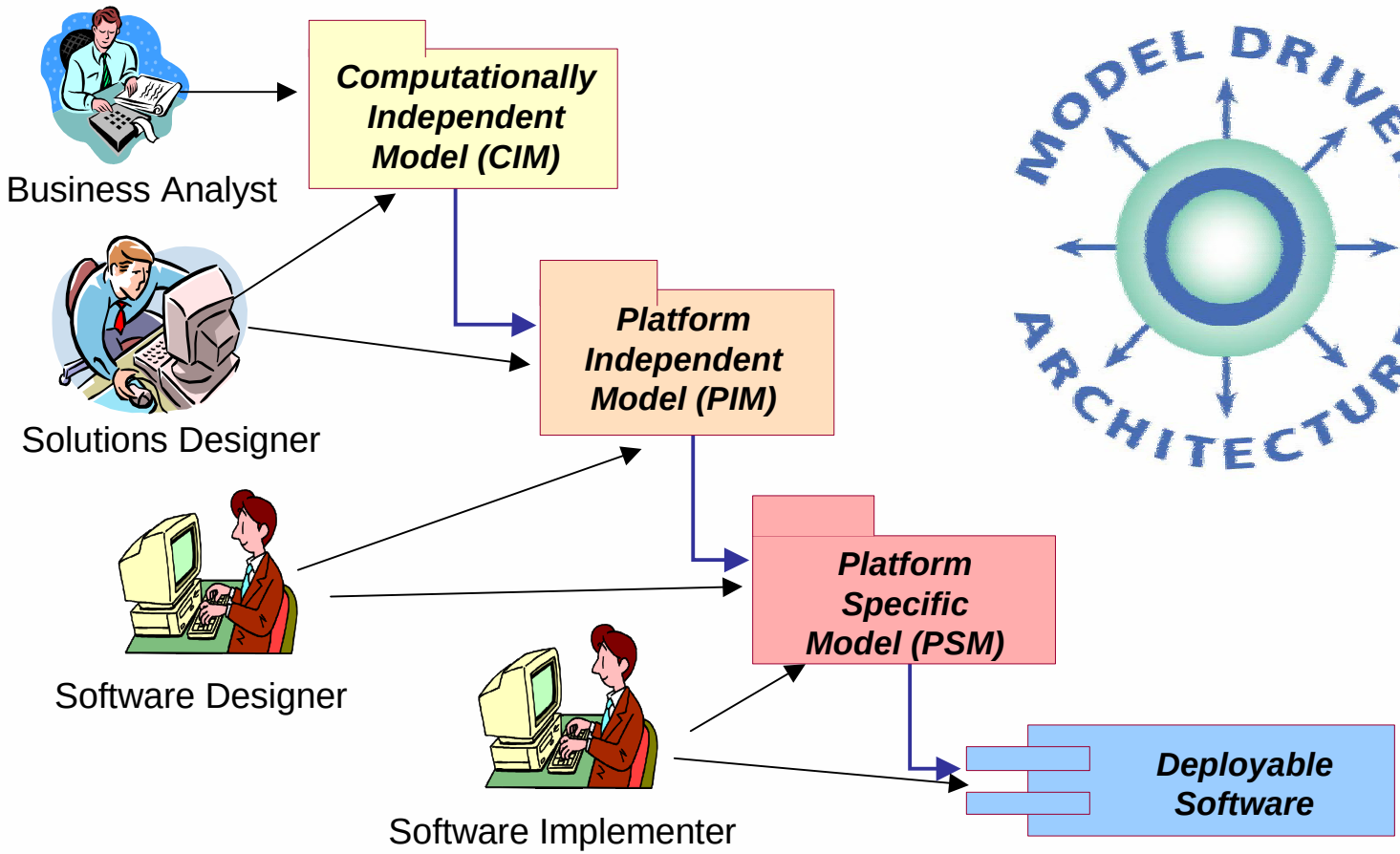
Promotes consistency?
Uses same language?
Removes silos?
Deals with legacy?

What It Might Look Like



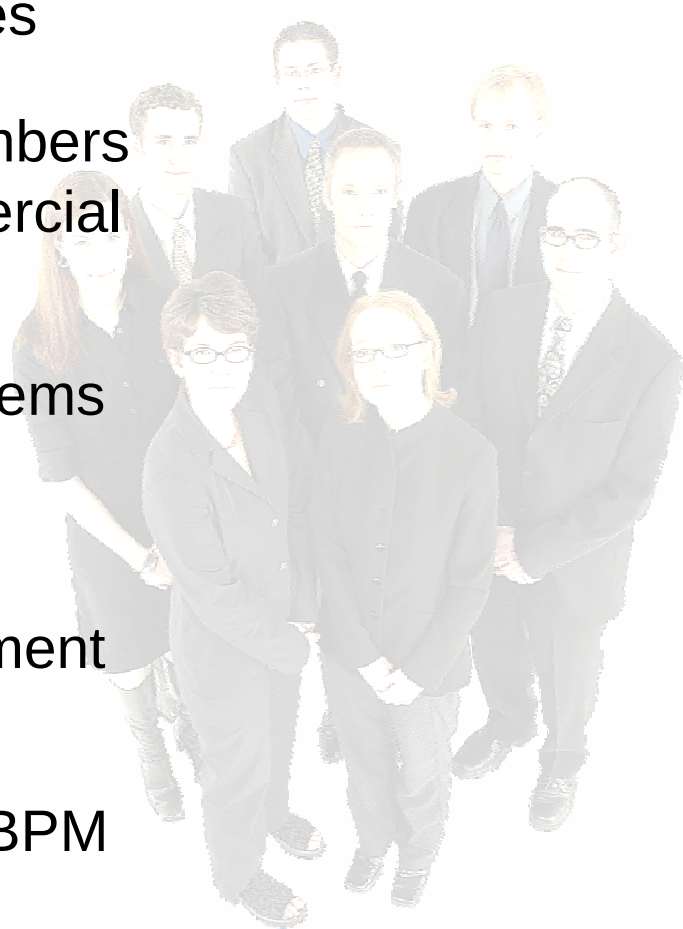
- Separation of concerns
- Multiple viewpoints
- Multi-level reuse
- Precise information flows
- Full traceability

Could It Be MDA?



Why MDA?

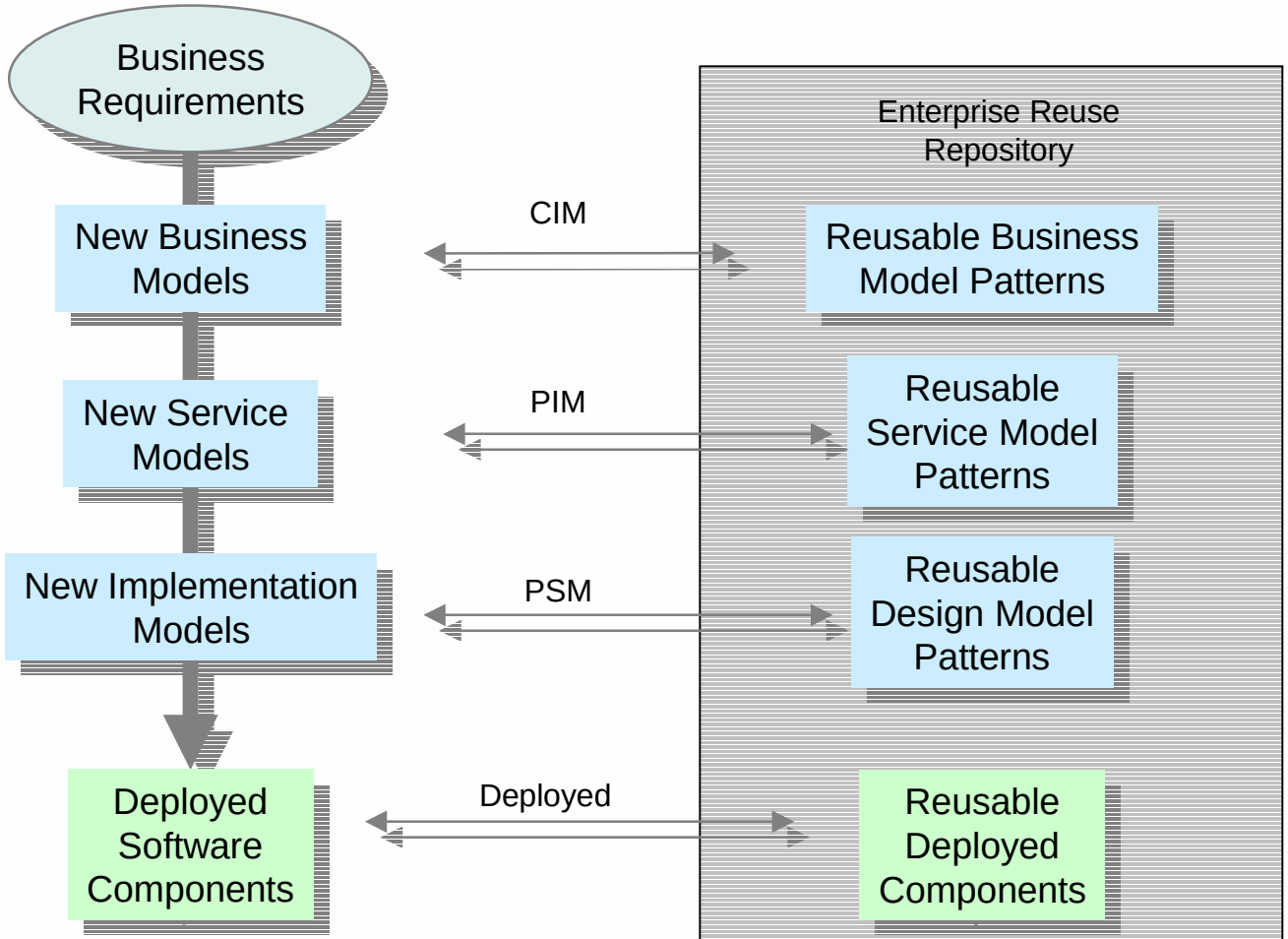
- Based on proven best practices and open standards
- Supported by 900+ OMG members
- Widely implemented in commercial and open source tools
- Applicable to a wide range of business and computing problems
- Highly adaptable to different organizations, project types, toolsets, technologies, etc.
- Supports all forms of development and deployment, including outsourcing and offshoring
- Complements and integrates BPM and SOA



Enabling BPM+SOA

- Define a formal enterprise architecture based on BPM+SOA
- Model the information (metadata) flow from business models to executable software.
- Establish a well-defined process to manage that flow.
- Configure and manage a heterogeneous ‘tool chain’ to help support all of the above.

How It All Fits



The Concerns

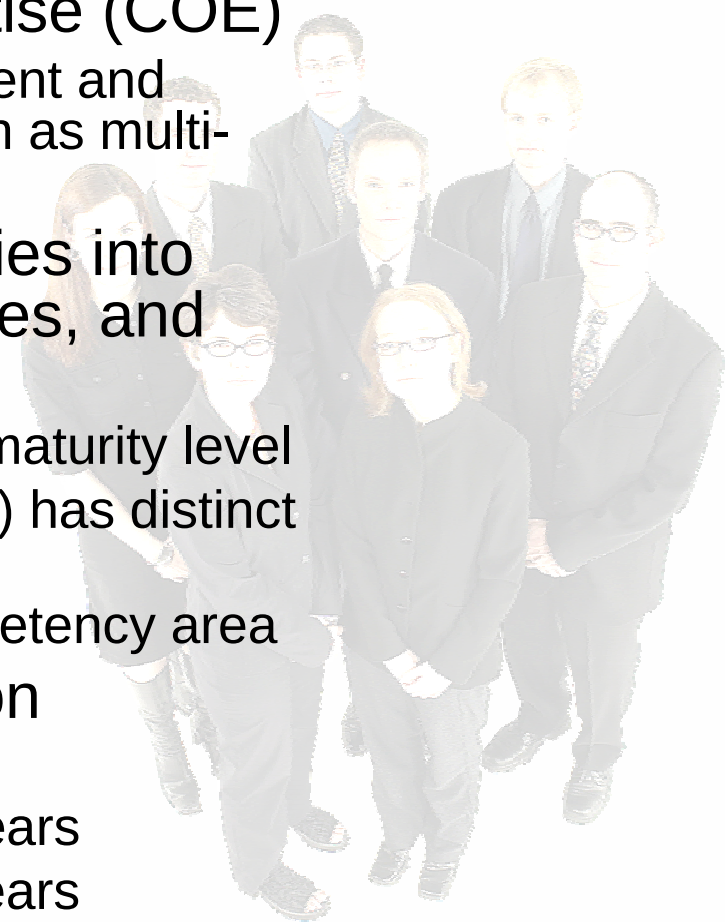
- Can it work in my company?
  - Is it really worth the time, cost, effort and risk to realize the vision?
  - What will the ‘to-be’ state of our organization really look like?
- Whose going to do it?
  - How do we manage/govern our organization’s transition to BPM+SOA and MDA?
  - How are we going to pay for all this?

Considering The Risks

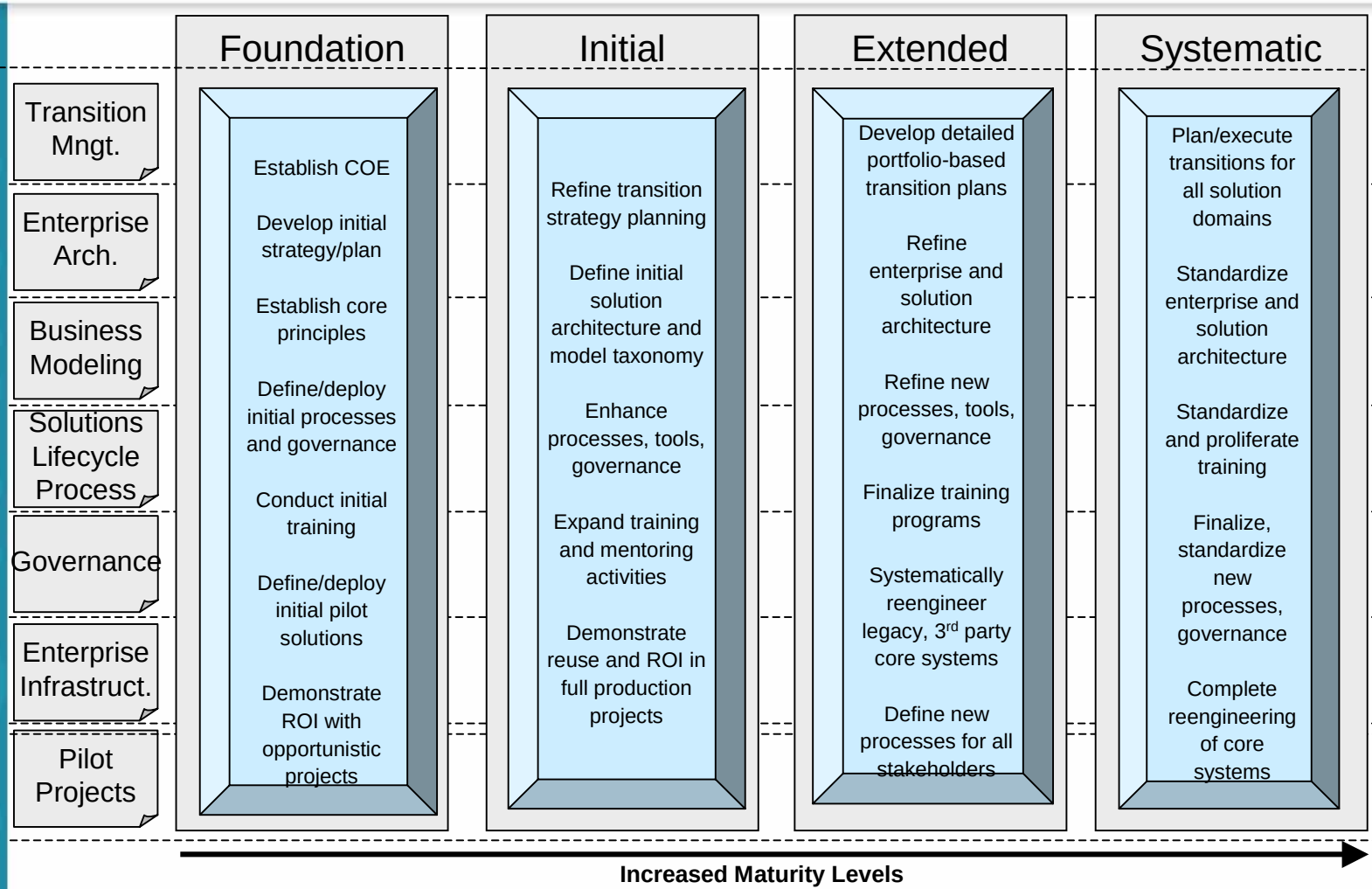
- BPM+SOA with MDA sounds great, but it still looks risky:
  - Significant re-tooling, re-skilling costs
  - Major impacts on many stakeholders
  - Challenging to roll out across a large organization
- Must be adapted to legacy processes, tools, and structures:
  - Formal/informal; varying levels of maturity
  - Based on existing organizational structure
  - Based on existing tools and skill sets
  - Covering a wide variety of IT activities

Managing the Risks

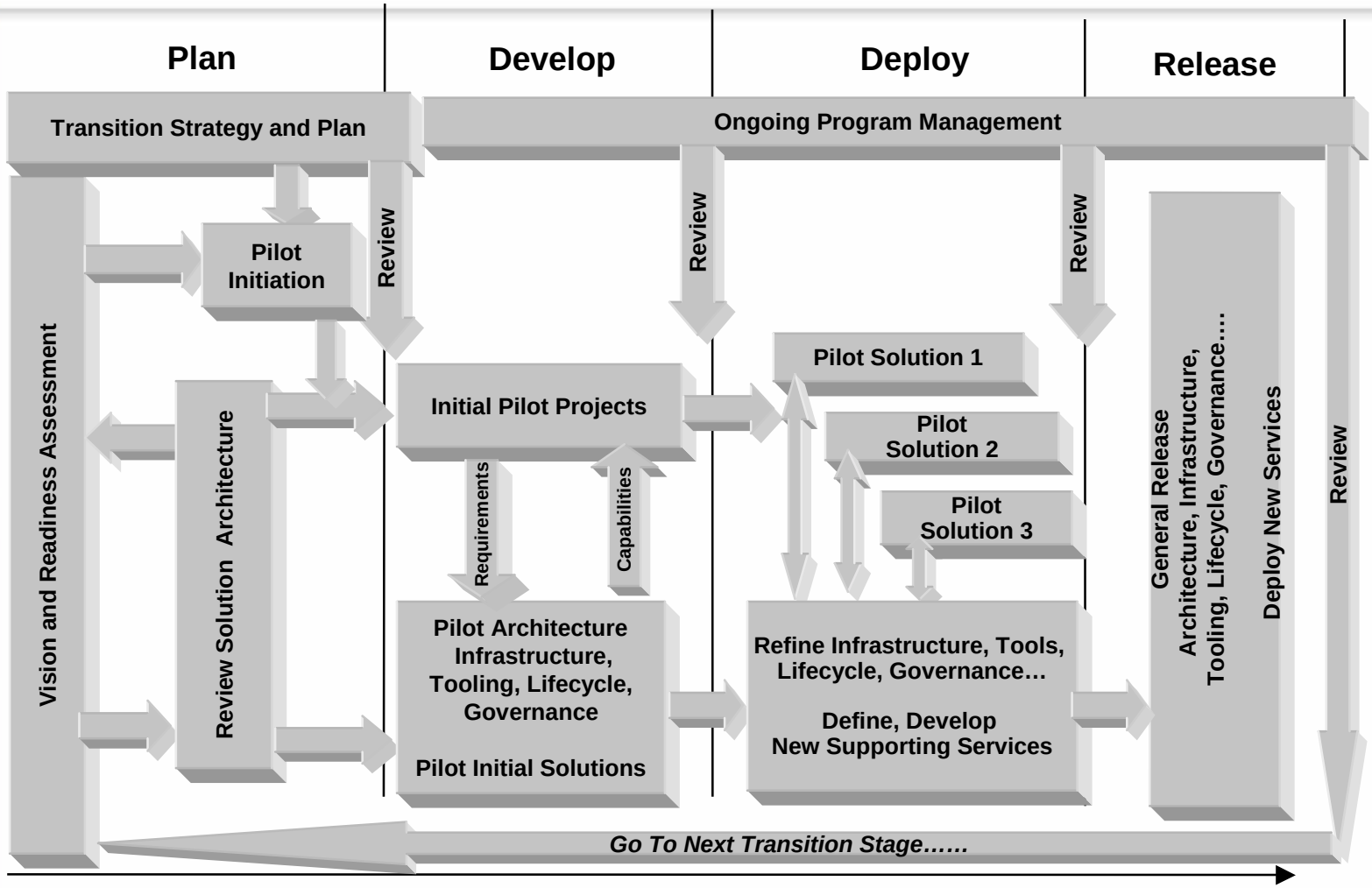
- Set up a Center-of-Expertise (COE)
  - Provides overall management and governance of the transition as multi-year ‘uber-project’
- Organize transition activities into well-defined stages, phases, and tracks, where:
  - Each stage results in new maturity level
  - Each phase (within a stage) has distinct transition deliverables
  - Each track is a major competency area
- Typical long-term transition timeframe:
  - Large organization: 3-5+ years
  - Smaller organization 1-3 years



Typical BPM+SOA Transition - Stages and Tracks

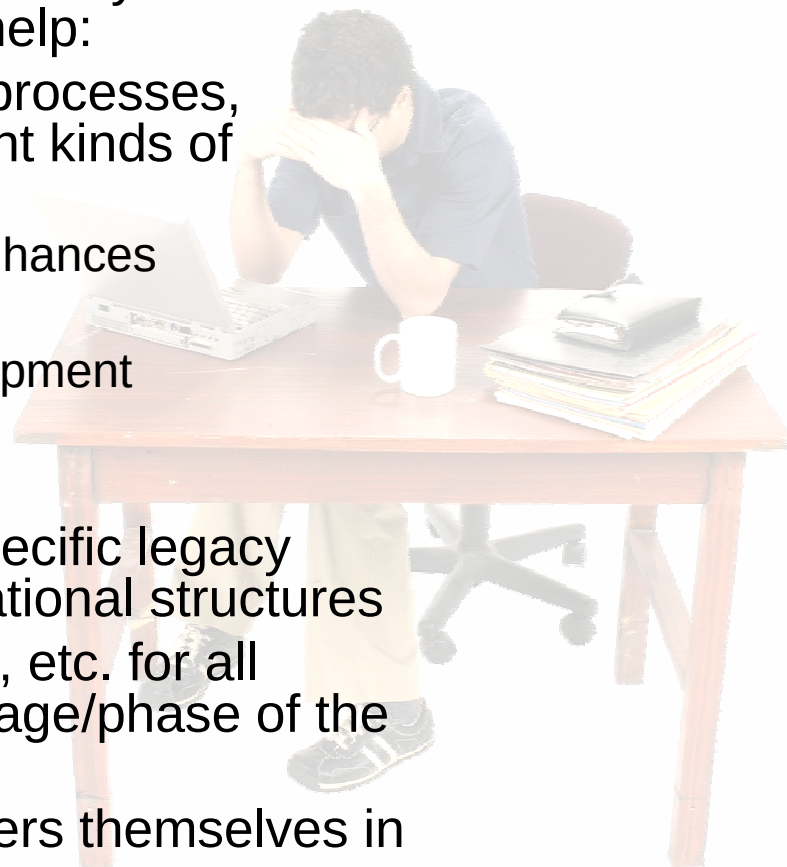


BPM+SOA Phases (for each stage)



BPM+SOA Transition - Customizing the Details

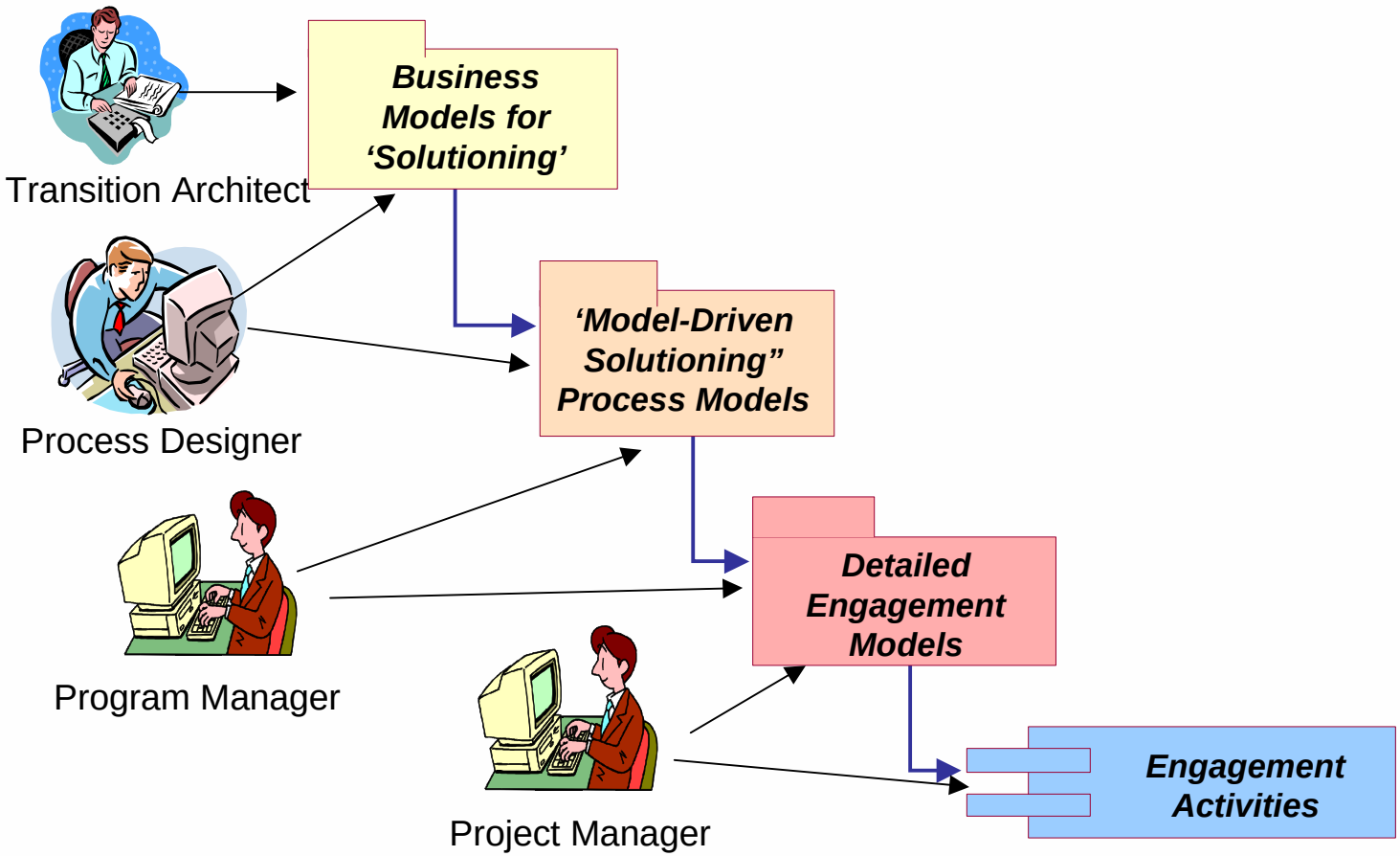
- The transition must be continuously customized at each stage to help:
- Introduce specific new tools, processes, techniques for specific different kinds of activities, such as:
  - Minor upgrades and small enhances
  - Customizing COTs
  - Managing outsourced development
  - Integrating legacy systems
  - Major initiatives
- Integrate with and adapt to specific legacy processes, tools and organizational structures
- Clearly define the roles, tasks, etc. for all stakeholders in activities at stage/phase of the transition
- Directly involve the stakeholders themselves in the transitioning process.



Using MDA To Manage the Transition

- Apply MDA's CIM-PIM-PSM pattern to the transition itself:
  - Business Model (CIM)
    - model business/IT 'solutioning' domain
  - Solutions Model (PIM)
    - adapt CIM to a model-driven process based on BPM+SOA
  - Implementation Model (PSM)
    - customize PIM to specific tools, techniques, project types, organizational structures
  - Deployment
    - plan and execute of each transitioning activity (we call these 'engagements') within each stage, phase, and track
- Give all this a cool new name (and acronym!):
  - Model Driven Solutioning (MDS)™

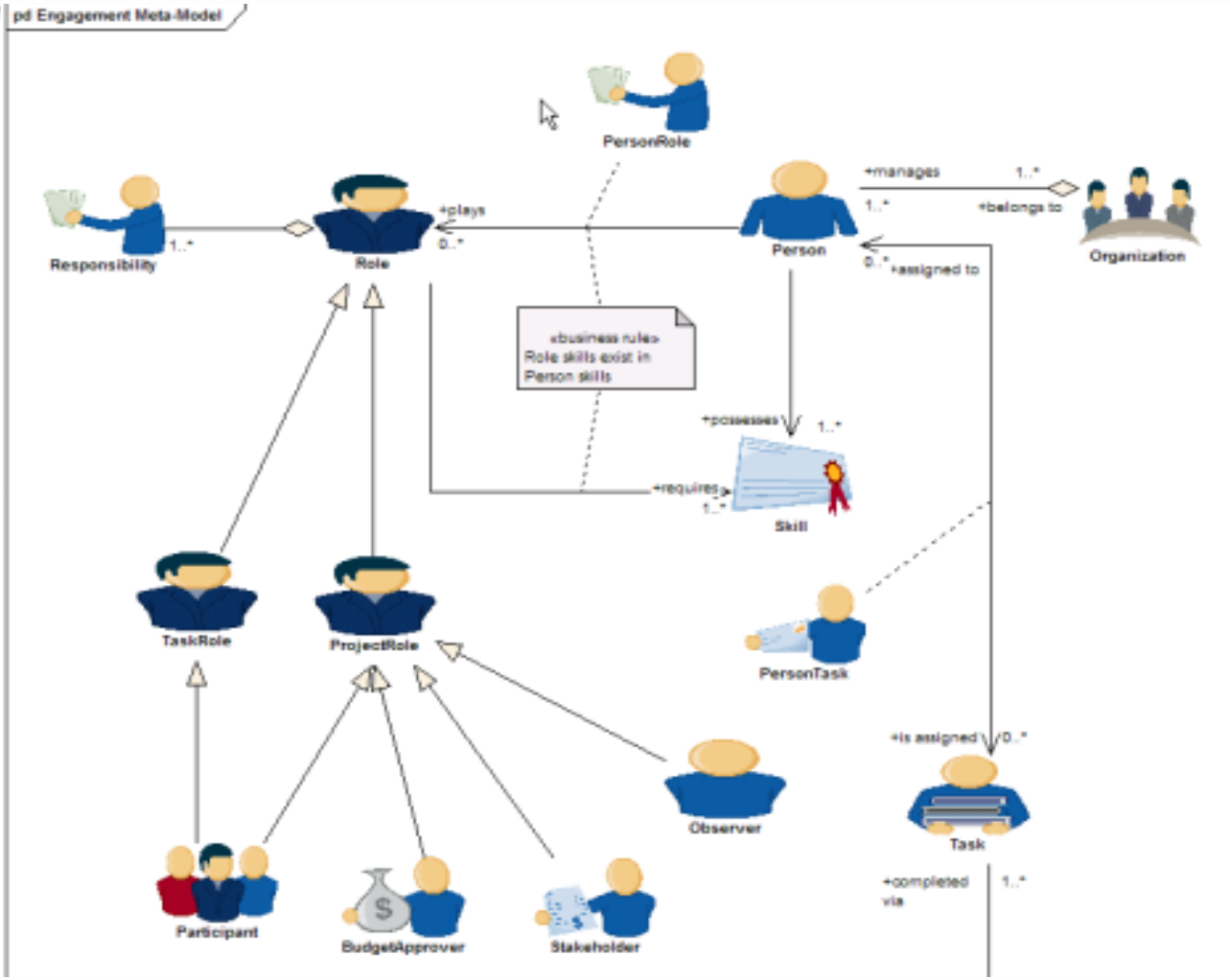
MDS - High Level Overview



MDS - Major Advantages

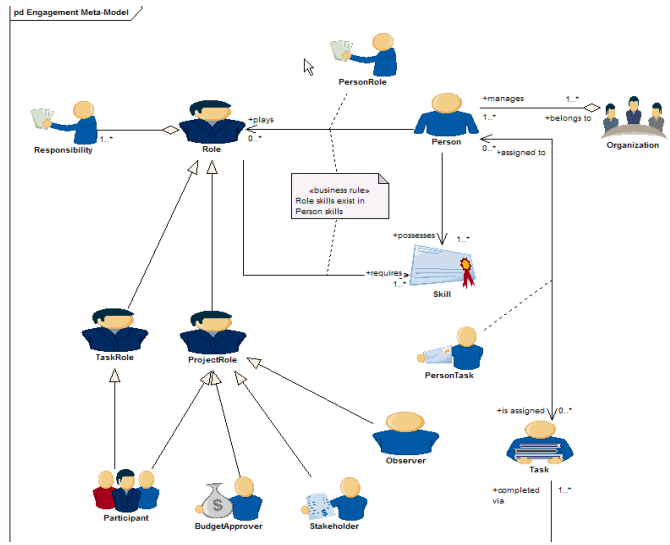
- Provides formal way to plan, manage, and customize the transition to BPM+SOA (or anything else!)
  - Helps communicate both modeling and transition concepts
  - Involves all stakeholders in the transitioning process
- Supports iterative, ‘just-in-time’ approach for transition:
  - Progressively change, enhance, and customize engagement models and transition deliverables during every stage/phase
- Can be used to help automate production of:
  - Project plans and documentation
  - RFIs, RFPs, RFQs
  - Tooling configurations
  - Training materials
  - More…

MDS Example - Metamodel Fragment



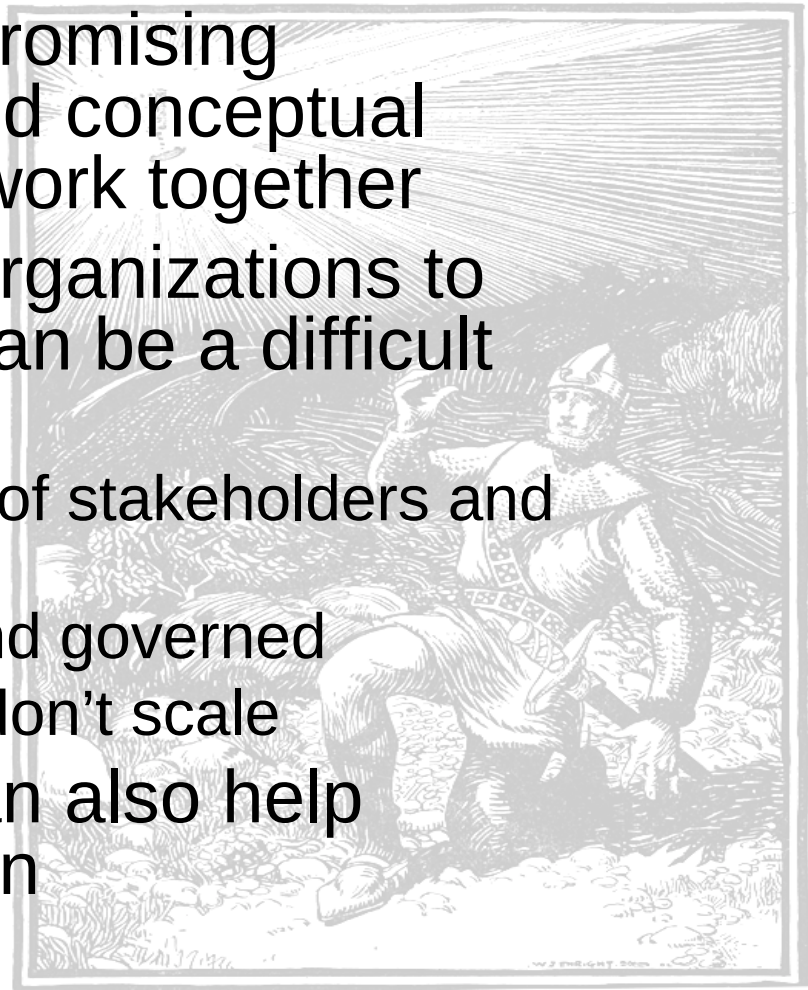
MDS Results

- Provides a single frame-of-reference to all transition stakeholders
- Being used to ‘sell’ BPM+SOA to:
  - Business
  - IT management
  - Project/program managers
- Concurrently piloted in:
  - requirements capture activities
  - ‘real’ IT production projects



Conclusions

- BPM and SOA are promising approaches, but need conceptual ‘glue’ (like MDA) to work together
- Transitioning large organizations to any new approach can be a difficult problem:
  - Many different kinds of stakeholders and activities
  - Must be managed and governed
  - Ad hoc approaches don’t scale
- Fortunately, MDA can also help manage the transition



Questions?