



Enterprise Decision Management

Next Generation –
Decisioning Methodology

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The Bottom Line – our message today



- Our industry performs poorly
- The reason is systemic, not execution
- A fundamental requirements artifact is being ignored
- A lightweight, accessible and rigorous approach can be used to identify and model the artifact
- The approach is independent of project or process
- The artifact proves a strategy's operational viability
- The approach reduces project risk / time / cost by driving data and process directly from strategy
- The artifact is the Decision Model
- The approach is Decisioning



DO WE HAVE A PROBLEM?

Multiple studies and anecdotal evidence say yes!

Quotes Circa 2008

- “If Las Vegas sounds too tame for you, software might just be the right gamble. . . **The odds of a large project finishing on time are close to zero.** The odds of a large project being canceled are an even-money bet” Rapid Development: Taming Wild Software Schedules By [Steve McConnell](#)
- “This year, organizations and governments will spend an estimated \$1 trillion on IT hardware, software, and services worldwide. Of the IT projects that are initiated, from **5 to 15 percent will be abandoned . . . as hopelessly inadequate . . . What's more, the failures are universally unprejudiced**” From the IEEE article Why Software Fails
- “If the assets of a failed project can all be considered waste, in 2006, **software value was measured at 59 cents on the dollar**” Standish Group Report, SDTimes 9/1/2008
- “For example the cost of **project failure across the European Union was €142 billion in 2004**” The British Computer Society (BCS), Dr John McManus and Dr Trevor Wood-Harper, June 2008

Even IT 'success' = failure by other measures

- On budget does not mean low cost - projects pay a high risk premium to beat odds of failure
 - High project management and consultant overheads
 - Requirement lockdowns that hobble business agility and ROI
 - 'Time to deliver' that sacrifices market opportunities
 - Forced reliance on yesterdays approaches/technology

- On time/on budget is 'necessary but not sufficient' - Project success must also include
 - Maximizing ROI
 - Improving business agility
 - Empowering business owners
 - Protecting and future proofing the core IP
 - Provable audit and compliance



WHY?

Systemic failure within IT

Where is the Strategic Context for Projects?

- Projects should build systems that create value – a proprietary activity not well defined in IT terms
- No methodologies address value creation with tangible or testable development artifacts
- No methodologies use value creation as a development context
- Decisioning is the ‘secret sauce’ of value creation BUT
 - methodologies neglect it entirely
 - or view it as a process or data dependant
- This antithetical view of decisioning is the root of a systemic failure

Requirements is IT's Achilles Heel



- Requirements analysis is a development weak point
 - Requirements are defined by second order artifacts:
processes, data, events
 - Heuristic techniques prevail
 - Validation limited to inspection and circular consistency checks
 - No means to rigorously validate against value creation strategy
- Compounded by narrative based definitions
 - Natural language documents are by definition ambiguous and idiomatic
 - Cannot be tested for accuracy, consistency, or completeness
 - Need to be re-interpreted when used, virtually ensuring misinterpretation
 - Ditto for all downstream definition documents

Importance of Decisions Missed



- Decisioning is the key driver of the value chain
- But, the IT industry ignores Decisioning
 - No methodology recognizes decisioning as a first order artifact
 - OMG's UMLv1.5 Section 3.22.3 excludes business rules
- Business Rules industry compounds this view
 - Confused the market by asserting that business rules are: Rete / Expert Systems, Neural Systems, OR, Data Modeling, OWL, Constraints Modeling, et al
 - 'Business Rules Manifesto' conflicts with Decisioning
- Business people intuit Decisioning = 'business rules'

What is a Business Rule?



- [Wikipedia] Business rules describe the operations, definitions and constraints that apply to an organization in achieving its goals.
- [Semantics of Business Vocabulary and Business Rules SBVR] The common sense understanding of 'rule' is that a rule always tends to remove some degree of freedom . . . Nonetheless, an operative business rule always mandates or suggests some out-of-bounds criteria for behavior
- [Guide] a statement that defines or constrains some aspect of the business . . intended to assert business structure or to control or influence the behavior of the business
- [Manifesto] Rules are a first-class citizen of the requirements world



HOW DO WE FIX IT

Understand the role of Decisioning and its importance to Business

Decisioning as Corporate Governance Mechanism

- Decisioning is the critical link between
 - Strategy → Projects
 - Strategy → Operational Systems
- Decisioning drives top-down
 - cf data and process techniques that are bottom up
- Decisioning provides the context that binds
 - Business strategy
 - Data
 - Processes
 - External events and organizations
- Decisioning is an enduring implementation of strategy
 - Projects are temporal

What is Decisioning?

- Decisioning: *The discrete and systematic discovery, definition, assembly and execution of decisions*
- Decision: *A proprietary datum derived by interpreting relevant facts according to structured business knowledge*
- Decision Model: *An ordered assembly of decisions that provides new and proprietary information to definitively determine an optimal course of action for the business*

Decisioning Focuses on Strategic Requirements

- A strategic requirement is one which creates value for the sponsor
- Something must change state to create value
- A decision is always the agent of state change
- The technology and approach for automating decision-making is 'decisioning'
- No extant IT methodology has been built around decisioning
- Understanding and implementing decisioning can exponentially improve system development outcomes

Use Decisioning as Project Context



- Decisioning exists independently of project or process
 - Decisioning arises in strategy
 - Development projects only build infrastructure for decisioning
 - Decisioning endures separately to drive operational systems
- Decisioning is the context for development projects
 - Projects are expected to deliver value based outcomes
 - Decisioning is our most tangible definition of value creation
 - Bespoke data and process should only be developed if required for value creation
 - Ergo: Use decisioning to drive data and process development
- Thought experiment:
 - Given a Decision model can you infer the data or process?
 - Given data and process can you infer the decision model?



DECISIONING AND IT

Then understand the role of Decisioning and its importance to IT

Decisioning gives Structure to Projects

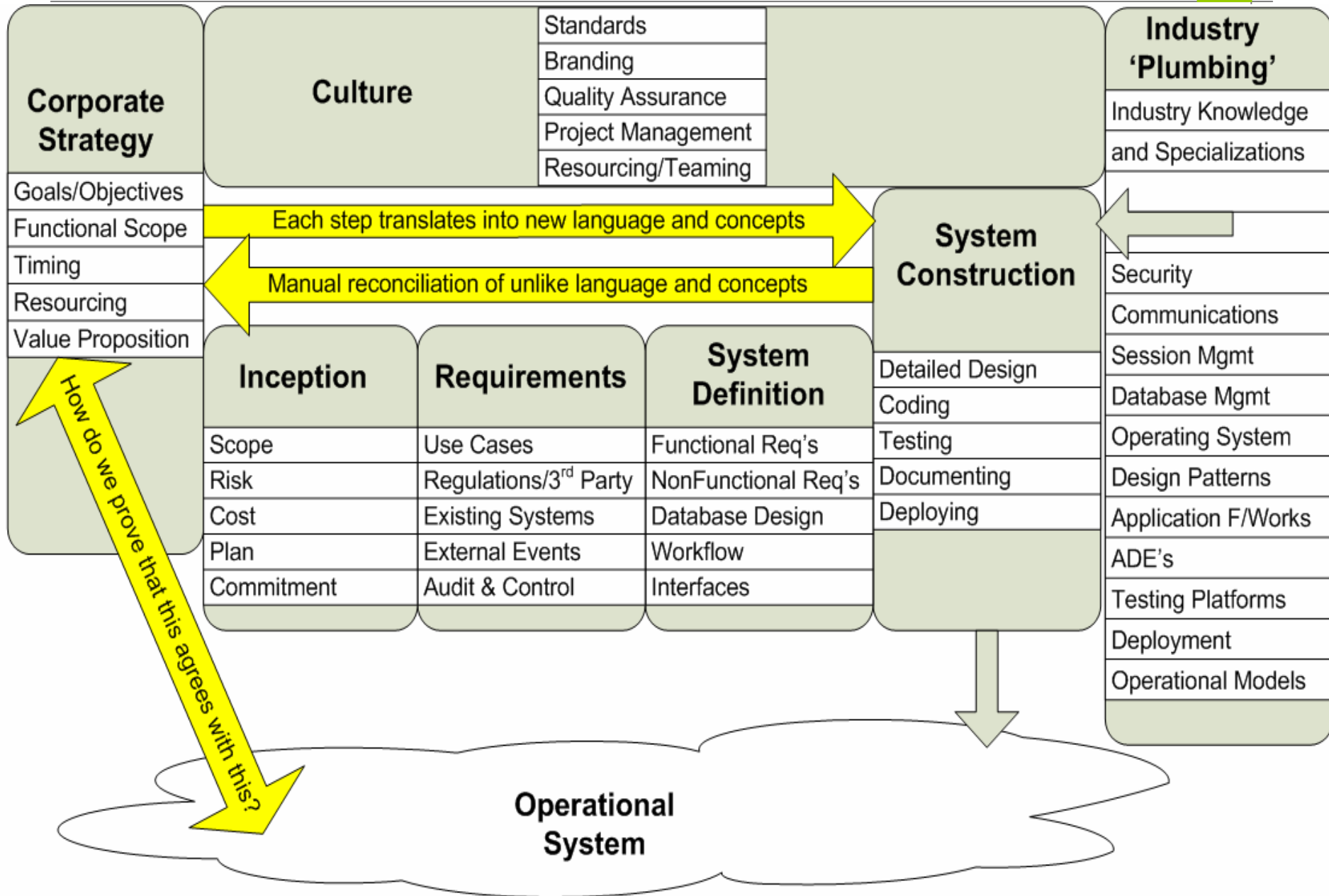


- Reduces project risk by proving the core value proposition first
- Separation of concerns – decisioning is externalized within the business with respect to the Project
- Provides end-to-end project context
- Creates the primordial artifacts that drive and constrain bespoke data and process definition
- Then survives as the ongoing, business accessible control mechanism for the implemented project

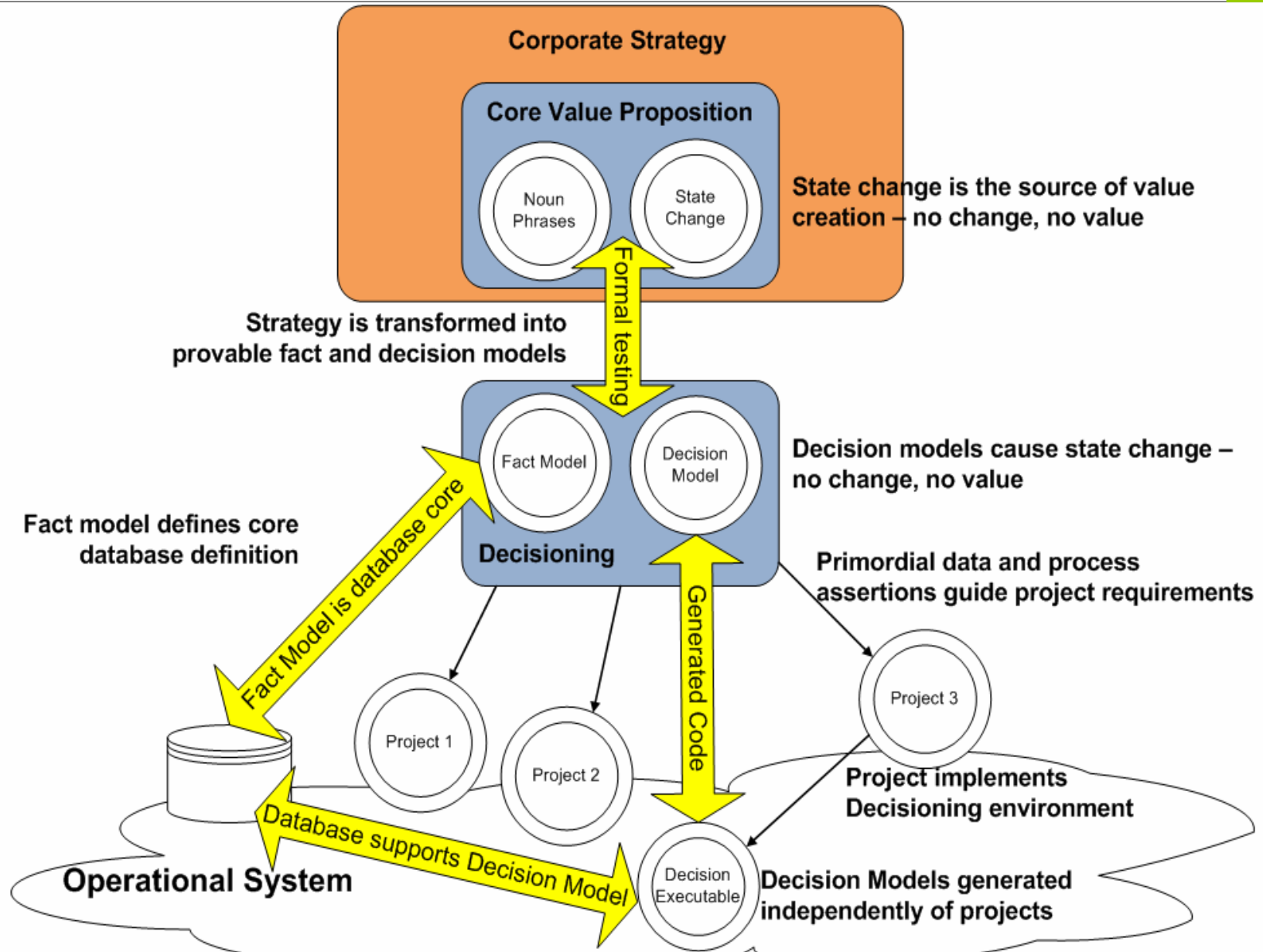


| | Data (What) | Function (How) | Network (Where) | People (Who) | Time (When) | Motivation (Why) |
|--|--|---|---|--|---|-------------------------------------|
| Objectives / Scope | List of things important to the enterprise | List of processes the enterprise performs | List of locations where the enterprise operates | List of organizational units | List of business events / cycles | List of business goals / strategies |
| Model of the Business | Entity relationship diagram (including m:m, n-ary, attributed relationships) | Business process model (physical data flow diagram) | Logistics network (nodes and links) | Organization chart, with roles; skill sets; secure issues. | Business master schedule | Business plan |
| Model of the Information System | Data model (converged entities, fully normalized) | Essential Data flow diagram; application architecture | Distributed system architecture | Human interface architecture (roles, data, access) | Dependency diagram, entity life history (process structure) | Business rule model |
| Technology Model | Data architecture (tables and columns); map to legacy data | System design: structure chart, pseudo-code | System architecture (hardware, software types) | User interface (how the system will behave); security design | "Control flow" diagram (control structure) | Business rule design |
| Detailed Representation | Data design (denormalized), physical storage design | Detailed Program Design | Network architecture | Screens, security architecture (who can see what?) | Timing definitions | Rule specification in program logic |
| Function System | Converted data | Executable programs | Communications facilities | Trained people | Business events | Enforced rules |

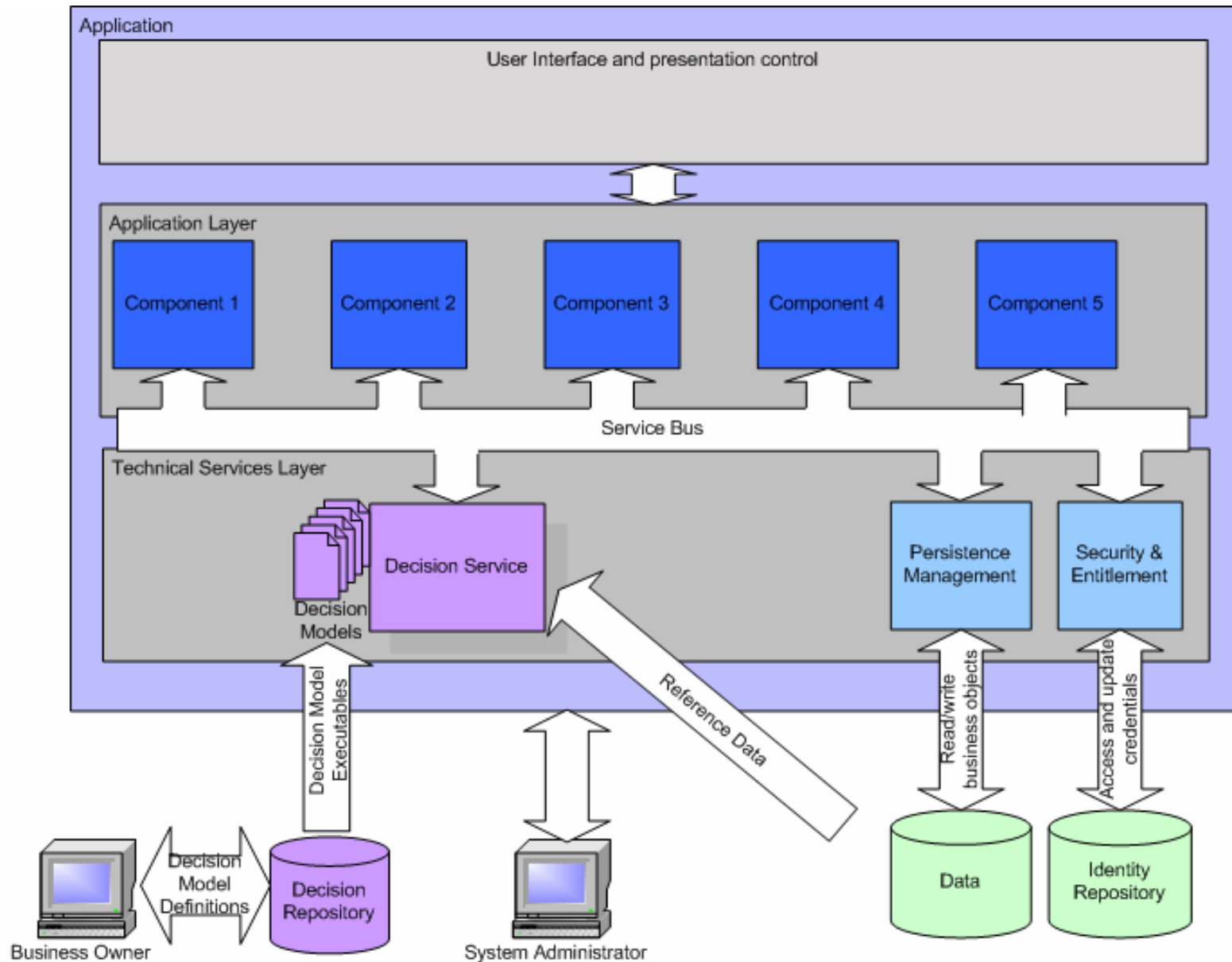
Standard Development Methodology



Decisioning is Provable Regardless of Project



The Project Uses the Decision Service





BENEFITS

To the business. To IT Management. To each Project

Strategic Business Benefits



- Decisioning wires Strategy into the Organization
 - Strategic value creation drives Projects
 - Business control of decisioning gives more business agility
- Operational
 - Auditable, testable changes in 'market time'
 - 'Business owner' directly controls system behavior
- Control
 - System decision-making is traceable to Strategy
 - System decision-making is transparent and auditable
- Strategic IP Management
 - Core IP – the business DNA – is declared and protected
 - A tangible asset – can be sold / rented / licensed
 - Future systems insurance – replacement does not risk IP loss

IT Benefits



■ Projects

- Fewer project failures
- Faster development at reduced cost
- Decision and infrastructure development occur in parallel
- Project activity is traceable to corporate strategy

■ Operational

- The most volatile code is managed outside of SDLC
- Reduced maintenance overhead and risk

■ Control

- Separation of concerns – reduced business exposure
- Single source of truth for all system decision-making
- Decisions driving system activity are transparent and auditable

Project Benefits



■ Project

- Significantly de-risked
- Reduces project size by externalizing decisioning
- Each development phase benefits in terms of time / cost / risk

■ Requirements

- Build out from the decisioning core – faster, more certain
- Traditional analysis approaches used to validate and complete

■ System Definition

- Strategic ‘primordial data’ is defined and proven
- Core processes and workflow already asserted

■ Construction

- Decisioning code can be generated – exponential savings in development cost for this code
- Reduced ‘go live’ dependencies

Decisioning Summary



- Strategy is linked directly into operational systems
- Testable, provable, definitive corporate knowledge
 - Past – audit & compliance of past actions
 - Current – explaining/driving automated system responses
 - Future – modeling , testing, deploying new strategies
- ‘Remote control’ for domain experts
 - Continuous corporate learning & process improvement
 - Day-by-day control of ‘zero touch’ processing
- Guide-wire for improved development performance
 - Strategy driven development – value driven, relevant, focused
 - Less risk, less cost, less time
- Tangible, realizable knowledge assets
 - For integrated cross party processes
 - More realizable value from corporate knowledge



Thank you

A more detailed description of the approach can be downloaded from
<http://www.idiomsoftware.com/pdfs/IDIOM%20Decisioning.pdf>

Questions

www.idiomsoftware.com

