



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

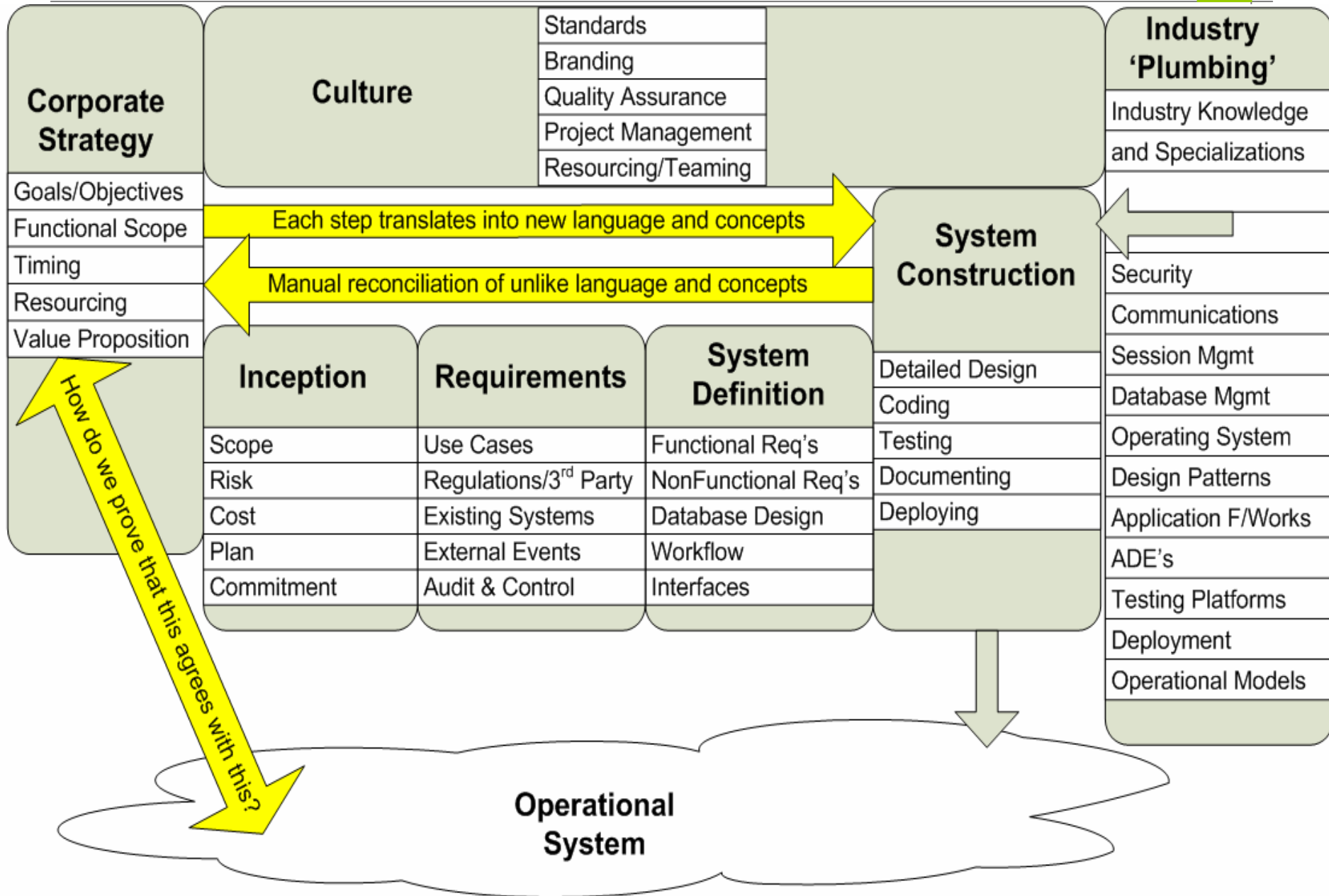


- Reduces project risk by proving the core value proposition first
- Separation of concerns – decisioning is externalized within the business with respect to the Project
- Provides end-to-end project context
- Creates the primordial artifacts that drive and constrain bespoke data and process definition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

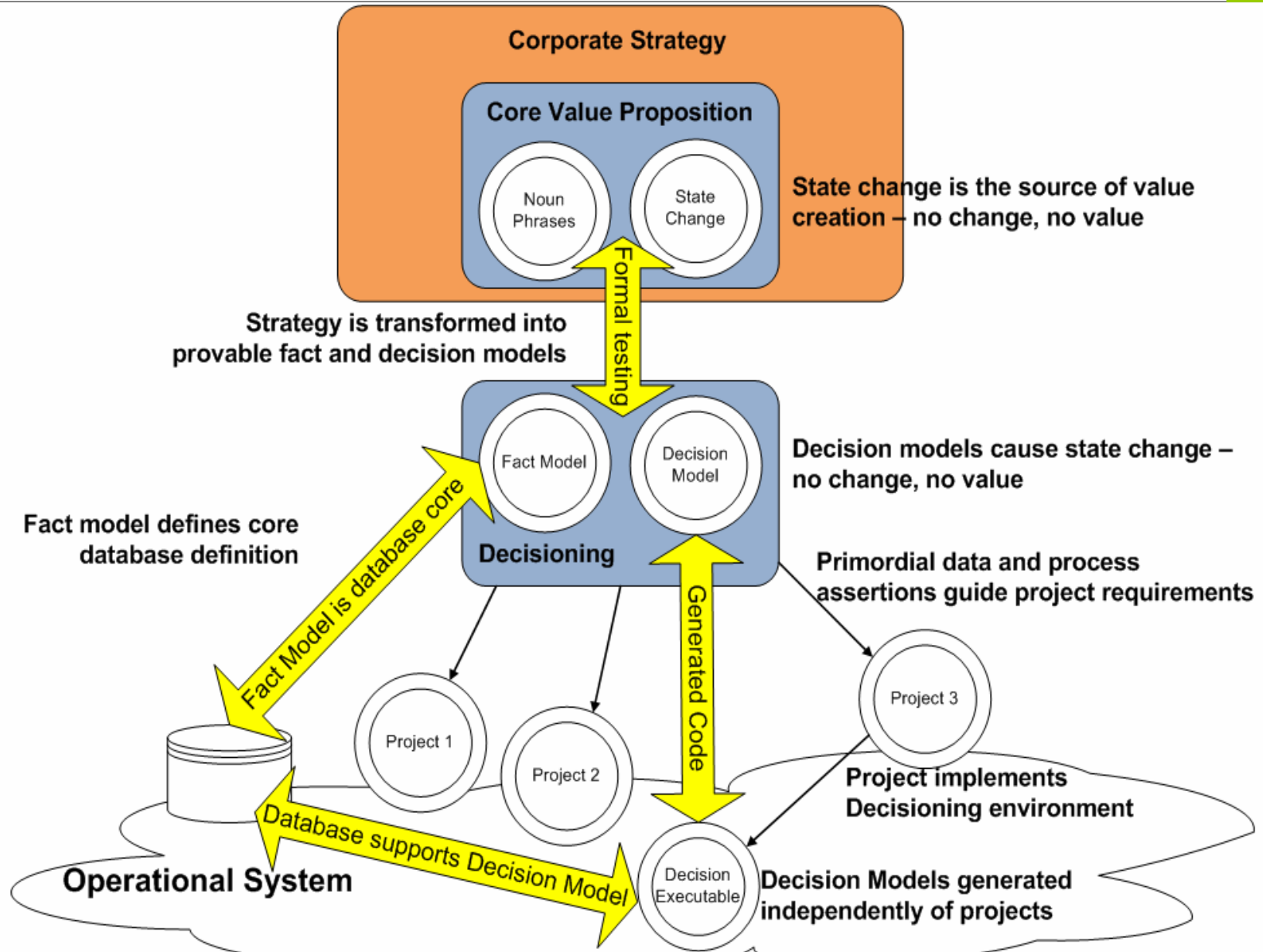


	Data (What)	Function (How)	Network (Where)	People (Who)	Time (When)	Motivation (Why)
Objectives / Scope	List of things important to the enterprise	List of processes the enterprise performs	List of locations where the enterprise operates	List of organizational units	List of business events / cycles	List 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

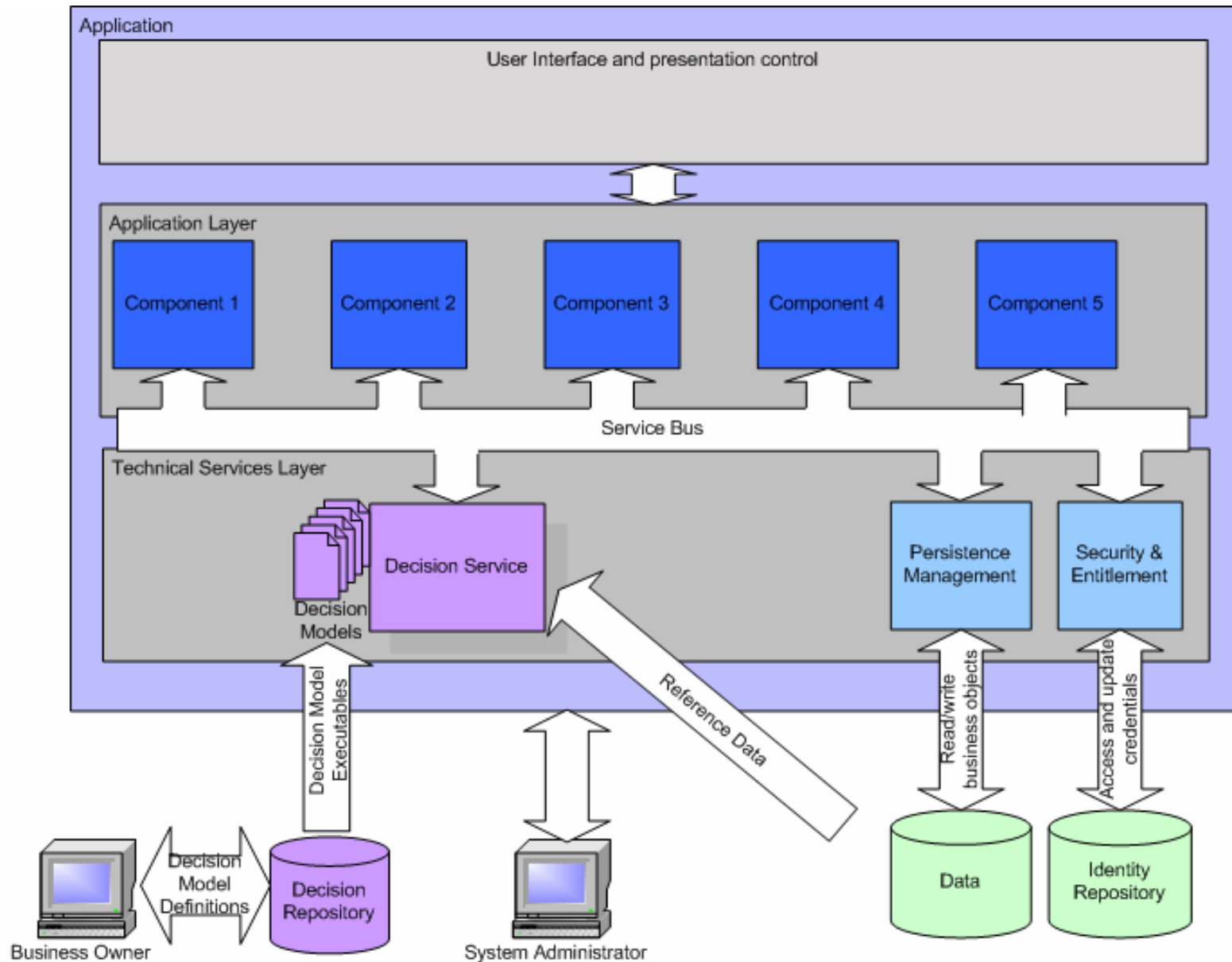
Standard Development Methodology



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

