POLICY AUTOMATION & DECISION MANAGEMENT SOLUTIONS

a perfect blend of tools and approaches to transform your business

Build a 'business policy life cycle' for greatly improved business agility, faster product cycle times, maximum data integrity and transparency, and assured transaction outcomes – all while also reducing development cost, risk, and time by substantial margins

- **How** do you know that the policies that define your business and which drive your decision-making are being correctly and consistently applied within your business systems?

- **How** can you ensure that new and changed policies are quickly and correctly updated in your systems when the regulator, the market, or your organization requires that you respond differently to events?

- **How** can you be sure that the data already in your systems reflects the policies that applied when that data was created?
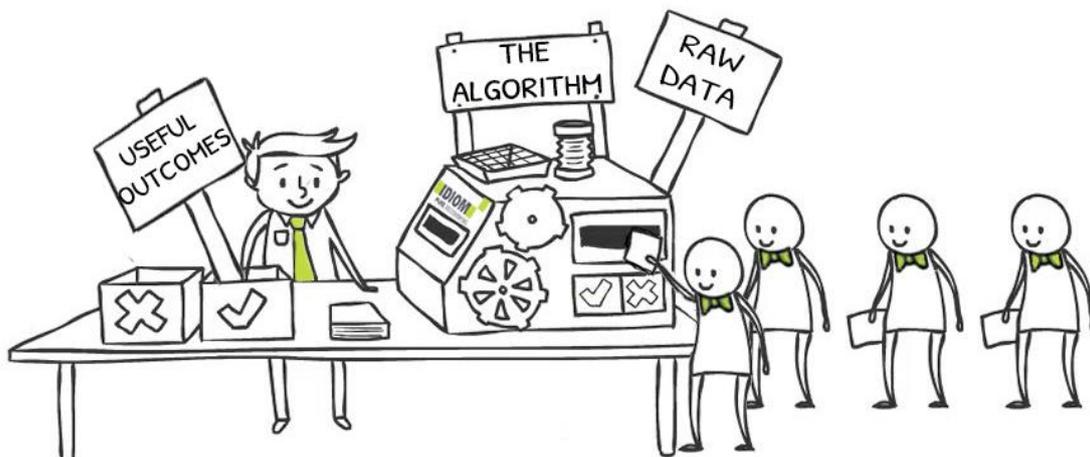
IDIOM has the tools, the approaches, and the experience to capture, test, and automate the Business Algorithm at scale, and to apply it to the past (audit), present (operations), and future (simulations) for nimble, continuous, perpetual systems

IDIOM quickly and easily automates all forms of business policy by modelling the decision-making that the policy requires, and then distributing the decision models as discrete and easily assimilated software components for use in systems of any type or scale.

THE BUSINESS ALGORITHM

Your business must respond to every single business event with correct, consistent, and timely decision-making to ensure that you always achieve the best outcomes

These responses are defined by the 'business algorithm' – a perfect and complete mix of logic, algebra, and business rules that encapsulates your business policies, your contractual obligations, and your regulatory requirements

IDIOM Decision Manager implements the business algorithm, completely, correctly, and very, very quickly

CAPABILITY STATEMENT

IDIOM Core Competencies

✓ Leadership in the art and practice of policy analysis, and best practice design of ultra large business algorithms
✓ Proven design patterns for decision centric, transaction driven systems and solutions for any domain, any scale
✓ Agile methodology experts for extremely rapid fabrication and delivery of light-weight, purpose specific solutions where automation of the business algorithm is required
✓ Strong technical and development skills across all platforms
✓ Web and mobile application design and delivery

IDIOM Projects – designed, developed, delivered to order

✓ Insurance – full cycle insurance administration, including direct to mobile device, and/or underwriting, rating, reinsurance, and claims as discrete functions
✓ Health Administration – transform clinical inputs into unit costs, apportion and allocate costs and revenue, and generate invoices for hundreds of hospitals and health agencies
✓ Pathways – pathways for any domain, including clinical pathways and student learning pathways
✓ Migration – many-to-many migrations, including cleansing and refactoring of customers, products, calculations, and data
✓ Funds Management & Pensions – onboarding, entitlements, fees, funds administration, audit, including large Defined Benefits Schemes extending beyond 35year calculations
✓ Payroll – recalculation and remediation for business and government agencies, 100,000s employees
✓ Central, State, Local Government – compliance, entitlements and payments, revenues, and payroll

Differentiators

✓ Author and exclusive owner of the IDIOM products: **IDIOM Decision Manager™** plus derivatives including IDIOM Forms™ IDIOM Document Generator™ IDIOM Dialog Manager™; and **IDIOM Transaction Engine™** with specializations including IDIOM Migration Bridge™ IDIOM Algorithm Modelling Workbench™ IDIOM Archive™
✓ Earliest to differentiate the business algorithm as a first-class business requirements concept, and to develop decision modelling as the optimal implementation approach for automating the algorithm
✓ IDIOM has harvested the benefits of dozens of early adopter customer projects to develop, test, and refine decision centric development and algorithm best practice across many domains
✓ IDIOM technology and approaches are now being used to implement business algorithms on a scale unmatched in the industry
✓ A global leader in development of the decisioning concept, with dozens of original articles published, including in the Business Rules Journal, Modern Analyst, and The Data Analysis Newsletter
✓ Pioneered the fusion of decision centric development with agile methodologies to derive outstanding business agility with even lower cost, risk, and time to develop

★★★★★★★★★★★★
WINNER
★★★★★★★★★★★★

Business Rules Excellence Awards 2018

The only multiple winner, with two submissions

Criteria: **Business and Operational Impact, Innovation, and Implementation**

IDIOM DECISION MANAGER

✓ IDIOM Decision Manager is a tool to graphically model, test, and deploy the business algorithm – without programming! A tool for the policy maker, not the programmer

✓ IDIOM automates complex policy-based algorithms at the enterprise level, deployable as industrial strength stand-alone software components

✓ In day-to-day practice it is used by IDIOM trained analysts working interactively with SMEs. Together they model the business/policy domain in terms of both data and decisions (see Fig 2) before moving on to define the underlying logic that binds the data and decisions together (see Fig 3)

✓ The 'decision model' and the adjacent data model (left hand panel below) are demonstrably aligned and integrated through shared context – validating and strengthening both

✓ The data model defines the entity at rest; the decision model defines the valid state transitions. Together they completely define the entity and its life-cycle, in accordance with business policy

✓ The atomic 'decisions' (rounded boxes, Fig 2) provide an easy entry point for specification of the underlying rules details via the Formulas (see Fig 3)

✓ All palettes use a 'Lego like' drag-and-drop approach that is 'more fun than playing golf' according to the CEO of one of our largest customers – there is no scripting or coding available or required to build formulas (images from a real city council application to calculate property charges)
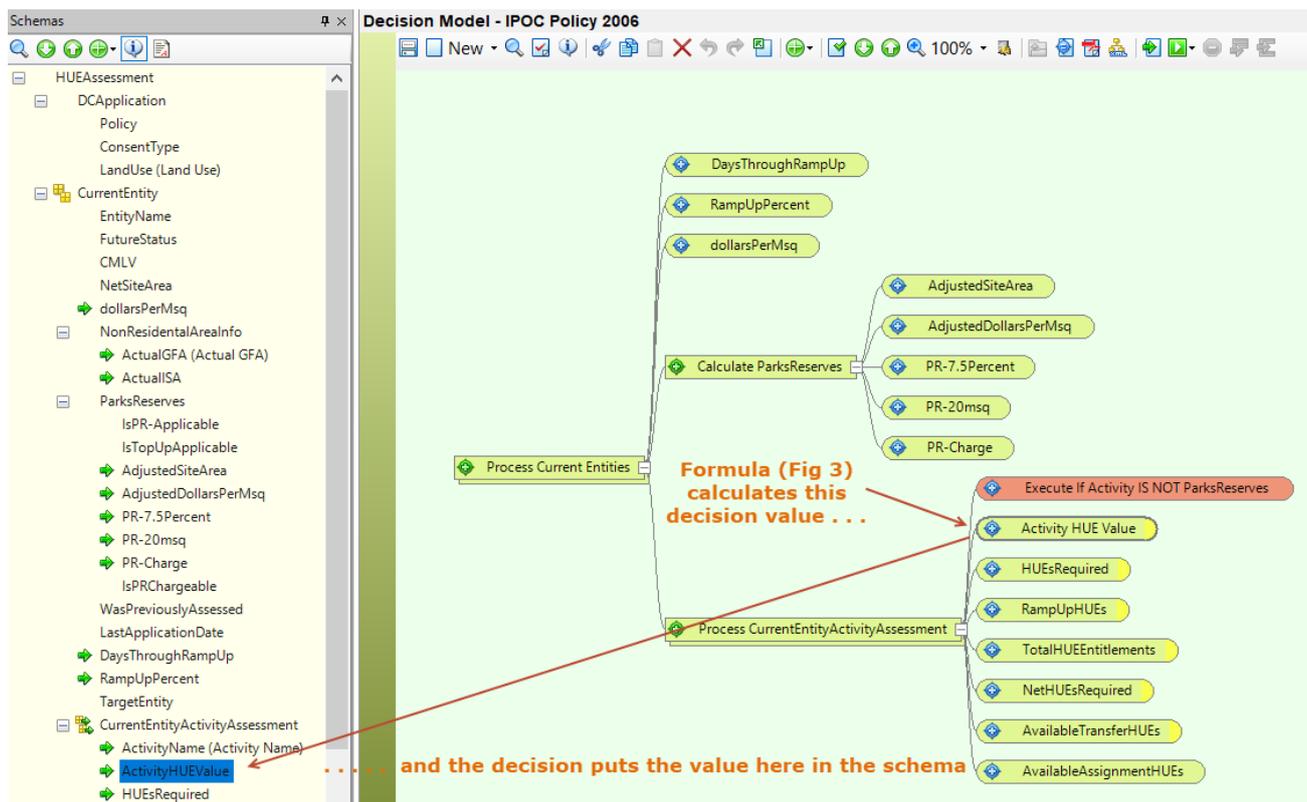

Figure 2 IDIOM Decision Manager - Decision palette showing a Decision Model and Schema (left pane)

✓ The rules can be tested immediately within the IDIOM Decision Manager palettes

✓ When finished, a single button click generates computer source code (C# or Java), to be called by any application using a wide variety of supplied wrappers (JAR/dll, web service, queue service, etc.)
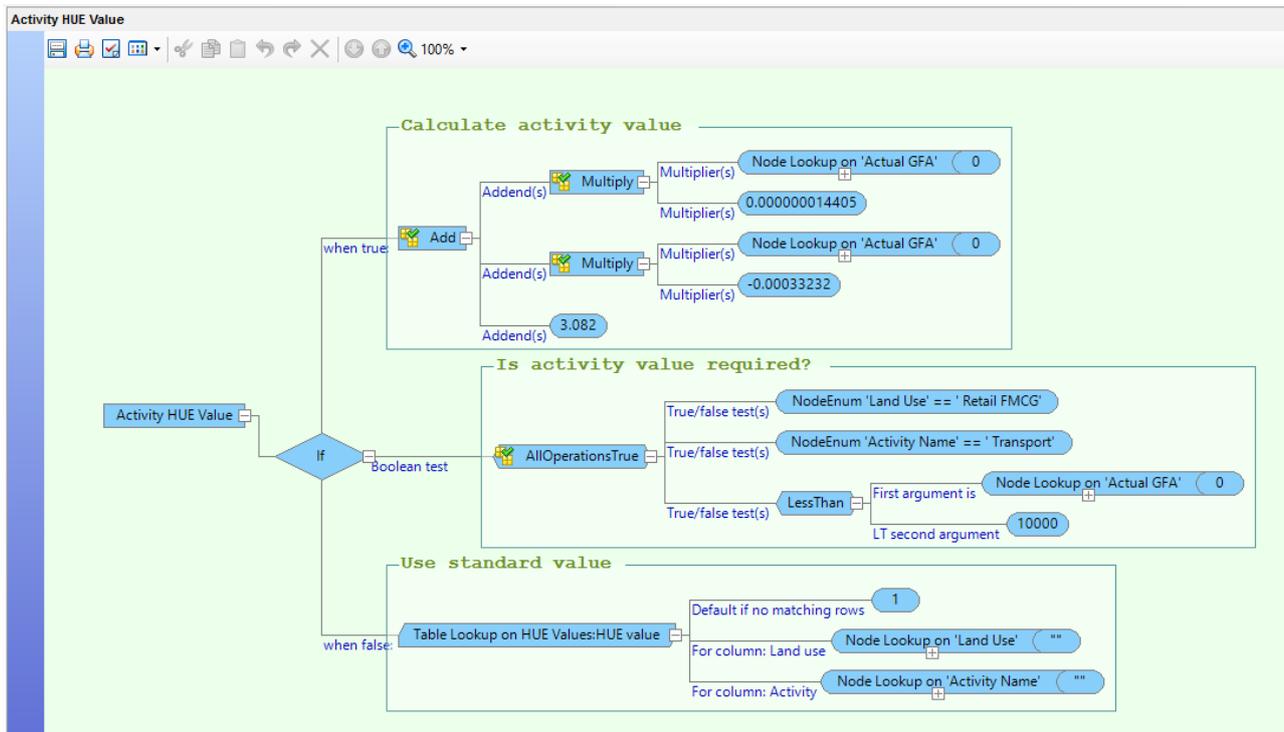
Figure 3 IDIOM Decision Manager - showing the Formula Palette

Key Points of Difference

- ✓ IDIOM decision models do for large business algorithms what data models do for data – they provide a powerful abstraction that makes the underlying complexity visible and manageable
- ✓ The models allow validations, data transformations, augmentation and enrichment, adjudication and quantification, and finally workflow, to be intermingled within a single transaction. Business rules acting alone are severely limited in their ability to fully implement business policy – invariably, significant in-stream enrichment of raw data using logic and algebra is necessary to realign the data with the terminology (viz the **'idiom'**) that is used in policy statements
- ✓ Many decision models (hundreds) can be managed and coordinated using a separately defined topology to achieve very large algorithms that span the whole organization, all accessible with one call to a common interface, either in-process or via an external service
- ✓ Decision models that incorporate both data and rules behavior allow models to be fully tested using real-world business use cases directly in the builder palettes. No external technology or application support is required to empirically prove the correctness, completeness, and consistency of the models
- ✓ The decision models are also 100% available as 'logical English', and as schema defined XML for complete transparency (in addition to the C# or Java program source code that fully automates the models) so that your critical algorithm IP is always accessible to you – without recourse to IDIOM
- ✓ The IDIOM Decision Manager is supported by the IDIOM Decision Tracker™, which is a tool to map MS Word and Excel documents to IDIOM decision models for full bi-directional traceability between corporate policy definitions in the Microsoft documents and their actual implementation as IDIOM generated decision engines

IDIOM TRANSACTION ENGINE

A complete application framework, already optimized for decision centric transactions, and ready to plug-in the business algorithm – a few other configurations and adjustments, and deploy as a finished application for any domain in 100days, guaranteed!

Deploy into a Virtual Machine, Azure PaaS, Docker containers or any combination. Totally secure, totally agile, web enabled, unlimited scale, highly configurable business transaction processing
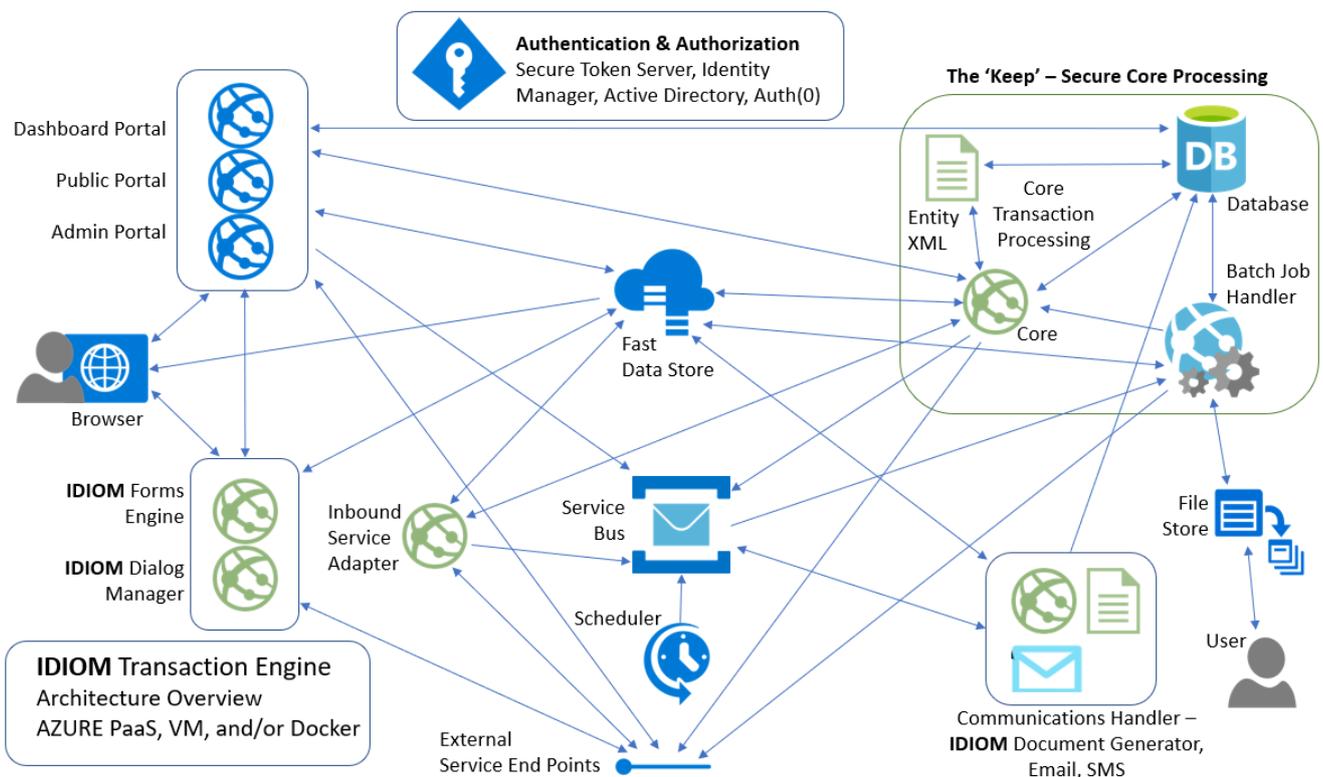

Figure 4 Overview of IDIOM Transaction Engine – green icons are 'powered by' IDIOM Decision Manager

The **IDIOM Transaction Engine** integrates the IDIOM products using IDIOM best practice design:

✓ Admin Portal for domain users to manage the system and access all back-end and Admin functions
✓ Dashboard Portal for third-party business intelligence tools and reporting
✓ Public Portal for non-domain users – password-less, authenticated user access, and anonymous users
✓ IDIOM Dialog Manager for decision-controlled conversations with mobile form factors – very large business concepts managed in very small sound-bites configured for mobile and IoT devices
✓ IDIOM Forms for large and complex webforms that are decision-enabled with large scale algorithms and decision-controlled field visibility and functions. Very large business concepts – thousands of input fields, dozens of tabs, 100s of decision events – for fast, interactive use by expert domain users
✓ Batch Jobs for file passes and asynchronous processing of inbound/outbound records
✓ Data agility is achieved using schema defined 'Entity XML' to hold the entity data, stored in a single XML table/column – a million or more nodes per entity is routine, with the RDB providing indexes and generic supporting data that includes workflow, communications, history, and decision models

- ✓ Core has exclusive ownership of and access to the Entity XML, for security, integrity, and consistency
- ✓ The Core uses decision models to manage overall workflow, including external integration services, future dated bring-ups, operator tasks and interventions, workflow monitoring
- ✓ Service Adapters provided for a wide variety of realtime or asynchronous integration end-points – web services, queue services, bespoke services
- ✓ Customer and third-party communications using the **IDIOM Document Generator** to generate correspondence and agreements under the control of decision models; plus, emails and SMS. All automatically composited, sent, indexed, and archived by the Communications Handler
- ✓ Scheduler for automated operations
- ✓ **IDIOM Algorithm Modelling Workbench** provides complete modelling support for business algorithms, including comparison of champion/challenger algorithms, regression testing, and algorithm performance analysis across all available data
- ✓ Process state is held in a meta document, so every component is stateless, can scale without limit

Specializations of the IDIOM Transaction Engine

The IDIOM Transaction Engine has multiple variants designed for specific purposes (more coming):

- ▪ **IDIOM Migration Bridge™** – Purpose built for large scale many-to-many migrations of data and calculations between any platforms, with in-stream cleansing and refactoring of customers, products, calculations, and data
- ▪ **IDIOM Archive™** – Repurpose the Bridge into a full application and manage the business in-situ
- ▪ **IDIOM Policy Administration System™** – a standard set of functions to adapt the IDIOM Transaction Engine into a highly agile, extensible, scalable, and robust Insurance Platform
- ▪ **IDIOM Algorithm Modelling Workbench™** – Run champion / challenger versions of the business algorithm in series and evaluate the performance of the algorithms during the design and build process, and ongoing thereafter – for algorithms that are nimble, continuous, perpetual

Variants of the IDIOM Transaction Engine have been built with additional functionality for specific purposes

Leverage the security, agility, extensibility, scalability, and reliability of the Transaction Engine to build any transactional system

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