

Business model workbench: product and technology overview

CAPSIFI.COM



Capsifi is an industry thought leader in business model innovation and digital transformation, leveraging advanced semantic technologies.

Jalapeno is our knowledge engineering platform for building dynamic, interactive business models that fully explain a business operation, accelerating and de-risking business transformation initiatives.

Our technology evolved from disciplined academic research that developed a semantic enterprise metamodel for a strategically aligned business operation.

We have successfully guided the strategic planning and execution of dozens of complex change initiatives for iconic, industry leading organizations across the globe.

We deliver Intelligent Business Insights

Smart, dynamic, consolidated knowledge that is consistent, connected & aligned

Business

Intuitive, interactive explanations of the dynamics of a business operation

Insights

Dynamic, insightful visualizations that enable agile decision-making

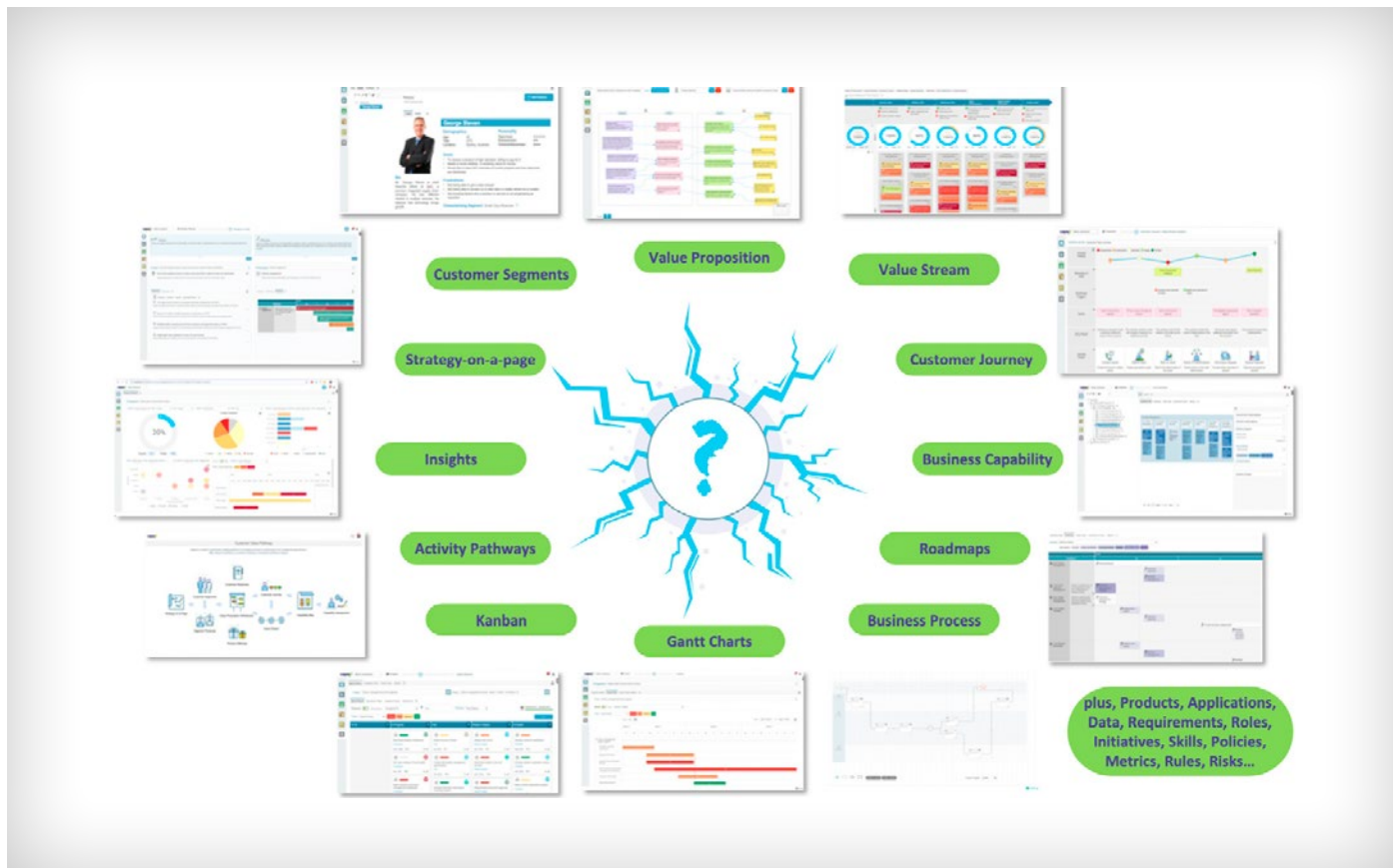
The business operating model as an asset

Jalapeno addresses the confounding complexity of siloed, fragmented business knowledge. Across any business there are dozens of different types of knowledge artefacts that target specific stakeholder interests. Like the proverbial blind men, all are looking at the same elephant and quite possibly drawing different conclusions.

Our purpose and philosophy is to consolidate, protect and preserve the enterprise operating model as a core strategic asset of a business. We provide a business-oriented, connected knowledge platform with engaging, intuitive visualizations that are readily consumable and relevant to business stakeholders. We deeply understand the need for holistic, insightful content that is contextual, dynamic and meaningful to a diverse range of stakeholders.

We place great emphasis on user-centric design and the end-user experience, producing high quality, attractive visualisations that are simple yet insightful.

Our Jalapeno platform for enterprise operating models, is an interactive workbench for mapping out a business operation. Jalapeno consolidates the fragmented collection of ideas, plans, strategies, capabilities, initiatives, policies, rules, metrics, reports, requirements, processes, information, applications and other knowledge artefacts that collectively represent the combined explanation of how your business operates. These siloed and disconnected islands of intelligence soon become consolidated and aligned into a consistent enterprise vocabulary, encapsulating the intricate web of interconnected "business semantics" that represents your operating model. Through Jalapeno you will rapidly achieve coherent, engaging and interactive insights into the dynamics of the



enterprise, providing ongoing value in managing and transforming your business.

The power of connected knowledge in an enterprise knowledge graph

The Jalapeno platform is based on modern, light-weight and flexible technologies. It is a SaaS product, cloud-based, accessible by a browser and intuitive. It is highly configurable and doesn't impose any rigid proprietary constraints on the design of business models

Through a comprehensive enterprise knowledge graph, Jalapeno provides a map for how any spectrum of fragmented knowledge artefacts are connected into an intricate, flexible explanation of the whole business operation. Users can pull at any thread to discover traceability between concepts or observe the impact as changes ripple through the

model. Given the exponential pace of change that business leaders have to deal with, Jalapeno facilitates continuous business model innovation, establishing the enterprise resilience to deal with uncertainty and change.

The foundational modelling features of Jalapeno are assembled in an interactive Business Model Workbench for dynamically architecting how all the moving parts are connected. Configurable, contextual, interactive visualisations are then published to diverse stakeholder groups across an organization through intuitive, Insight Consoles. These role-based "windows" into the business operation, allow users to monitor and tweak business capabilities and track their progress towards strategic objectives.

Through the consoles, executive decision makers are presented with intelligent insights allowing them

to evaluate performance, assess scenarios, and access the levers to adjust operational parameters in-flight. With everything dynamically connected and aligned, Jalapeno provides end-to-end traceability to diagnose issues and identify the cause and effect of bottlenecks.

Jalapeno is particularly useful for planning, de-risking and executing large scale business transformation initiatives in large complex organizations.

Faced with the relentless pace of exponential technology advances, the ability to rapidly innovate the business model is an essential strategic capability enabling agility and the resilience to continuously adapt and avoid disruption.

A new approach to competitive value

Core to Jalapeno is the aggregation of diverse knowledge content into

a holistic enterprise perspective of the business operation. To enable this Jalapeno is underpinned by a robust integration framework that can be easily connected to external applications and repositories for bi-directional exchange of information. Although we offer a comprehensive range of architecture modelling features from Strategy to Delivery, we can also easily co-exist with 3rd party modelling tools. Our approach is not to replicate or replace, but to leverage the investment in your existing tools, directly querying external content where it lies, facilitating the traceability and alignment that is essential to provide true enterprise insights.

The software is based on a semantic platform. One component of the platform is an RDF Triple-store — the data structure for semantic graph data. Jalapeno models are constructed as semantic graphs of related concepts, with the concept relationships and attributes stored as RDF triples. The Jalapeno Metamodel (an enterprise ontology) is the secret sauce that provides

a template for seamlessly aligning disparate, disconnected knowledge into a queryable, logical database.

As an RDF-based semantic application, Jalapeno is built on the principles of the Semantic Web and Linked-Open Data. We embrace these concepts in our meta-model driven architecture which is essentially a consolidated enterprise ontology that reconciles the diverse perspectives reflected in many of the traditional business modelling paradigms. We envisage the enterprise as a being in a constantly evolving state-of-affairs, reflected in the consolidated web of connected concepts and their property states.

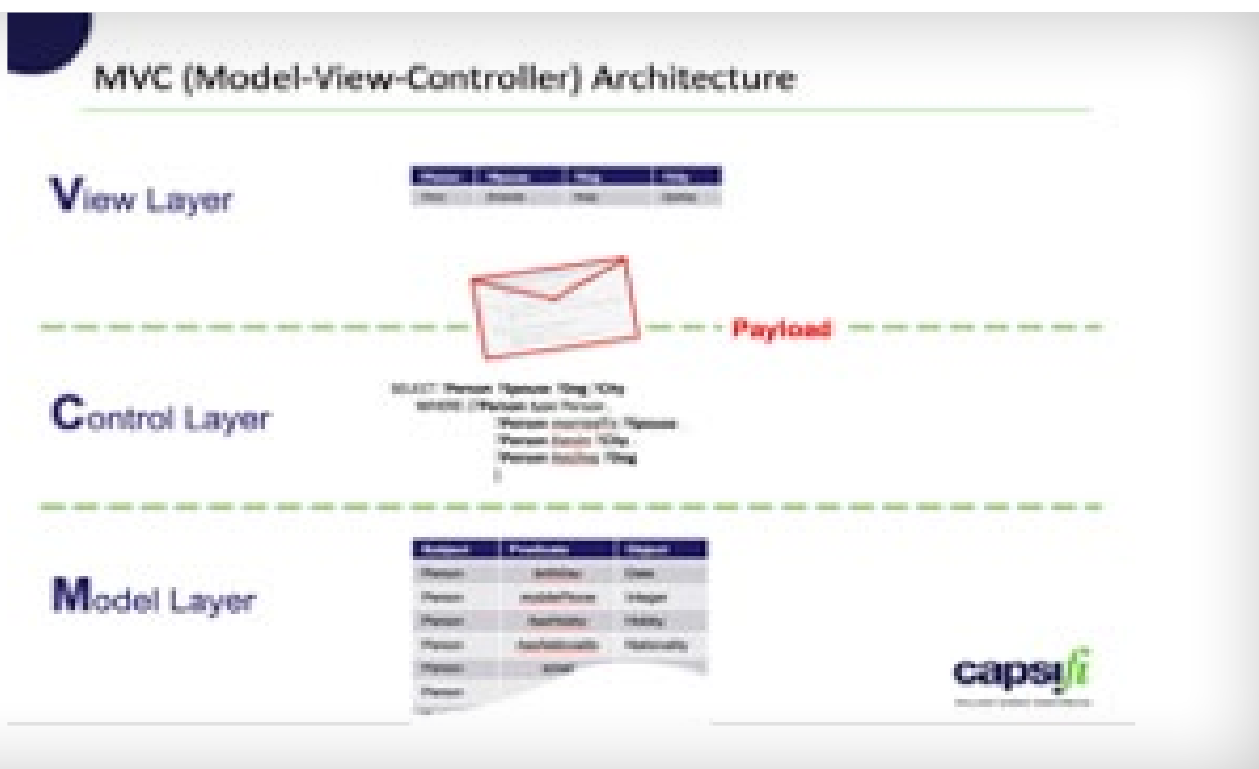
The semantic graph used by Jalapeno is the same technology implemented in the Google Knowledge Graph, a knowledge base used by Google and its services to enhance its search engine's results with information facts, semantically aligned from a variety of sources. Jalapeno brings these technologies to the enterprise, turning business knowledge into an interactive, queryable database.

A Jalapeno model encapsulates the entirety of an organisation into a fully integrated, logical expression of how the business operates, providing complete strategic and operational traceability — in a language that is intuitive to both business and technical stakeholders.

Designed for the way you work

The Jalapeno platform redefines the entire business modeling approach, essentially rethinking the dynamics of a business operating model from the perspective of its various operational states. This holistic, integrated view is the critical secret sauce that links common building blocks into a fluid, dynamic operating model. It represents a fundamental shift in how organizations construct and then integrate, maintain and manage analytical outputs.

Jalapeno offers a dynamic and holistic way to define, develop and implement comprehensive business architectures. At the same



time, it makes it simple to collect data, define architectures and view the framework from a variety of perspectives so that it is easily consumable by everyone in the organization.

It has many built-in views and navigational aids to make it intuitive for a broad range of users, enabling them to consume insights from their preferred perspective (e.g. business process view, enterprise capability map, etc.).

Most importantly, it enables the entire range of constituencies to use it collaboratively and simultaneously, including: business architects, business analysts, enterprise architects, managers, project teams and anyone else responsible for defining, managing or changing either the organization's business model or the technology that supports it.

Creating advantage through your dynamic business architecture

In the digital era, organizations become brittle and vulnerable to disruption when they are unable to articulate how their systems relate to their business strategy.

Moreover, when the organization does not orchestrate and tune those systems to create, perpetuate and sustain competitive value — via their unique business logic — they can rapidly become inhibitors rather than enablers of business agility.

Business leaders need to democratize the knowledge of how the business operates and delivers value and then use that knowledge throughout the enterprise on an ongoing, sustained basis to build and manage a technical architecture which supports it.

This dynamic, interactive asset enables business and IT leaders to collaborate and innovate their operating models — and the technology that supports them

— to continually increase the organization's competitive posture in the marketplace.

Jalapeno application architecture

The extraordinary flexibility and scalability of Jalapeno is enabled through our MVC (Model-View-Controller) architectural design which allows an implementation of Jalapeno to be extendable at any of three layers.

Leveraging the MVC (Model-View-Controller) architecture, every visualisation in Jalapeno is generated from a JSON payload dynamically returned from a SPARQL query on the semantic triple-store. This simple MVC architecture pattern powers the enormous flexibility and scalability of our technology and means that with Jalapeno, everything becomes dynamically traceable and truly aligned.

Model — the Model Layer of the architecture is the information layer, which provides a robust stratification of data independence yet seamlessly supports consolidated views of fragmented knowledge. The Jalapeno metamodel is the "map" that connects business concepts and can be easily extended with the addition of new concepts and relationships. The core metamodel can import industry reference models and supports complex enterprise structures with a multi-model configuration whereby different enterprise domains are each modelled as distinct model layers.

View — configurable model visualisations including custom layouts, tabs, tables and entire navigation pathways can be created at the View Layer. Jalapeno Workbench Modellers can create and publish role-based Consoles and Dashboards for specific audiences, showcasing their

model content in easily accessible, contextual homepages or presentations.

Controller — at the Control Layer, powerful semantic queries deliver insights through interrogating your model relationships. Our intuitive frontend relation explorer and traceability tools expose query parameters to the non-technical business.

Jalapeno technical architecture

The Jalapeno software platform is hosted at AWS (or Azure) sites around the world and delivered as a cloud-based SaaS solution. Each customer is allocated their own instance of Jalapeno and each instance can contain multiple models. A Jalapeno instance is typically delivered on a Capsifi multi-tenant cloud environment. For greater control and flexibility customers may opt for a single tenant environment for an additional fee. As the platform has been built for a multi-tenant environment it is designed to scale at the infrastructure and software layers. By leveraging AWS (or Azure) infrastructure, Capsifi can scale up the underlying computing power to meet shifts in platform demand.

Technically, the Jalapeno platform is a collection of services working together to deliver the application.

Enterprise-Grade NoSQL & semantic storage

The Jalapeno software is powered by the MarkLogic Enterprise NoSQL Database. The MarkLogic database provides enterprise-grade capabilities like search, failover, replication, and security to run mission-critical applications.

Client-side JavaScript application

Jalapeno relies on client-side application code which is cached and runs on the user's web browser. This is performed by optimised,

compacted JavaScript. Running JavaScript on the user's machine improves the user experience, allows for client-side event handling, and powers many of Jalapeno's front-end visualisations.

Web application server

The pages of the Jalapeno application, session management, and integration with other systems are all provided by Capsifi's custom-designed Scala and Java-based application server, which utilizes the Play Framework (Play powers major popular sites such as LinkedIn). It is delivered as a fully self-contained Java JAR file which installs as a Linux service, and has minimal operating system dependencies. It has a low memory and CPU footprint, and logging output is fully configurable via standard Logback configuration files.

Identity management

Identity authentication and verification is carried out via the LDAP protocol with the Identity Server (Open LDAP). The model information is stored in the MarkLogic Enterprise database. Password length and reuse restrictions are enforced to complement the password restrictions on the user's Organisation account, for which they will already be authenticated.

Alternatively, Jalapeno can integrate with an organisation's existing LDAP services when deployed under the Customer Hosted model. Please consult with our Operations team on the best way to approach this feature. When using an existing LDAP service such as Active Directory, user administration is performed by the host organisation's IT team directly in their own tools.

Capsifi's Jalapeno platform is an integrated business model workbench that is built on the philosophies explained in this paper. We invite you to take a Test Drive at: capsifi.com/test-drive-now

