



Advisory and Architecture Service

G-Cloud 14 Service Definition Document

**gravity9: Building Digital Platforms, Turning Legacy Complexity
into Digital Agility**



Contents

Introduction.....3

Advisory and Architecture Service Overview 6

Key Features 8

Case Studies.....10

How To Get Started? What We Need From You 12

Enquiries 13

Building **Better** Digital Products



Introduction

It's never too early to modernise, but it can be too late!

Legacy complexity is a by-product of your success; your organization has grown and your applications and platforms have grown to keep up and support your ever-changing needs. However, many established organisations initiated their operations before modern solution architectures emerged, while today's proven patterns and practices offer efficiency and longevity.

- **74%** of organizations that experience data breaches are due to vulnerabilities in legacy systems - Ponemon Institute
- **52%** of fortune 500 in 2003 no longer exist today
- **45%** improvement in customer satisfaction for organizations that prioritize modernising applications - Forrester Consulting

Don't Become a Statistic!

Legacy systems often struggle with the volume of digital transactions, fail to store necessary data for insightful analysis, and face challenges in meeting regulatory compliance. This hinders innovation and agility, resulting in slower time-to-market. New organisations, unencumbered by legacy systems, possess native agility but lack your expertise, breadth of services, resources, and trusted brand. Imagine leveraging modern architecture to enhance your wealth of experience and capabilities.

gravity9 propels you beyond complex, outdated legacy solutions to a sleek AI-led, micro-service, micro-UI platform enabling continuous innovation.

Our application modernisation approach leverages cutting-edge AI technologies and microservices architecture to streamline your operations and drive continuous innovation. With our sleek micro-UI platform, we empower your business to adapt and thrive in today's dynamic market landscape, ensuring agility, scalability, and sustained competitive advantage. Say goodbye to the constraints of the past and embrace a future where innovation knows no bounds with gravity9.

Cloud Technology

For organisations not in the cloud, transitioning to a cloud-based infrastructure is fundamental for modernising as it offers unparalleled scalability, flexibility, and accessibility. By leveraging cloud technologies, businesses can streamline workflows, improve collaboration among teams, and enhance overall efficiency. Moreover, cloud-based solutions enable real-time data analytics, empowering organizations to make informed decisions swiftly. Embracing the cloud also ensures better resilience against disruptions, as data and applications are securely stored and accessible from anywhere, providing continuity even in challenging circumstances.

Don't just Modernise – Revolutionize!

gravity9 understand the challenges of legacy systems and with our experience and expertise will, pave the way for your organization's digital revolution. We guide you through the labyrinth of legacy complexity, identifying inefficiencies, bottlenecks, and opportunities to innovate.

Building **Better** Digital Products

By strategically modernising and optimizing your systems, we streamline operations, reduce technical debt, and empower your organization to thrive in the digital age. Our approach goes beyond mere modernisation; we prioritize future-proofing your architecture with an emphasis on AI integration and product insulation, ensuring it's scalable and adaptable to evolving technologies and market demands. Through meticulous planning and implementation, we transition your organization from legacy constraints to agile, best-practice solutions.

CORE TO OUR APPROACH



AI

Harness AI to revolutionize operational efficiency and decision-making. Our expertise in AI development empowers organizations to innovate and gain a competitive edge, optimizing performance and profitability through tailored, intelligent system integration.

Engineering

Modernise your applications with confidence and precision. Our expert team specializes in seamlessly transitioning legacy systems to agile, future-proof solutions, ensuring your business stays ahead in today's fast-paced digital landscape.

Product

We are constantly inventing new digital products, services, and revenue streams for our clients by designing, prototyping and building experiences for the next market leaders. We research and define customer journeys by thinking human first to enable technologies fullest potential and build better products.

Building **Better** Digital Products



Global Presence

Highlighting our global presence, gravity9 has teams located in multiple offices worldwide, bringing a wealth of benefits. This international footprint allows us to tap into a diverse talent pool, ensuring we have the right expertise for any challenge. It also enables us to offer round-the-clock development and support, thanks to the different time zones our teams operate in. Furthermore, our global perspective enriches our understanding of various markets and cultures, which is invaluable in crafting digital solutions that resonate worldwide. Ultimately, our widespread teams enhance our agility, foster innovation, and ensure we can meet our clients' needs with unparalleled efficiency and effectiveness.

WE ARE GLOBAL

Our Locations

UK & IRELAND

London
Birmingham
Dublin

POLAND

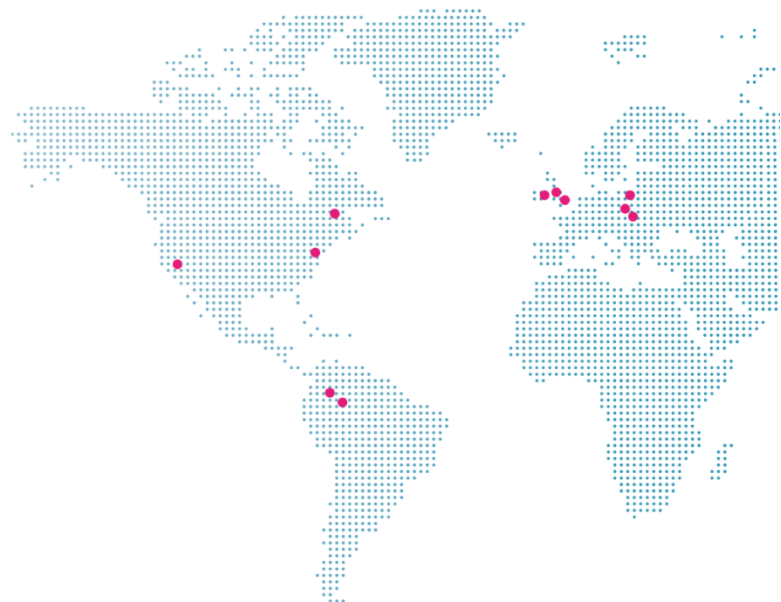
Kraków
Wrocław
Gdańsk

USA

New York City
North Carolina
California

COLOMBIA

Medellin
Bogotá





Advisory and Architecture Service Overview

Service Description

In the dynamic realm of software development, the architecture of your systems forms the backbone of your digital strategy. Our Architecture Advisory service is crafted to guide your organisation through the nuances of digital transformation, ensuring a balance between legacy system modernisation and cutting-edge technological adoption. We recognise that transitioning to contemporary technologies is not merely a technical challenge but a strategic endeavour that must be aligned with your long-term business objectives. Our comprehensive approach to legacy system modernisation safeguards your transition, making it smooth, efficient and strategically coherent. Delving deep into your business domain, we offer more than just a service; we provide a partnership that seeks to understand and model your business processes intricately. This deep dive into your business domain gathers insights that are pivotal in crafting an architecture that aligns with, supports and enhances your business functions. By fostering an architecture that is in sync with your business processes we ensure that your technological framework is robust and agile, capable of adapting to the ever-evolving digital landscape.

Our expertise extends to defining a clear software architecture strategy and roadmap, which provides a clear direction for your organisation's technological advancement. We consider the entire product and software lifecycle, ensuring that every stage, from inception to deployment, is meticulously planned and accounted for. This strategic road mapping is crucial in navigating the complexities of software architecture, where foresight and precision play pivotal roles.

Most engagements start with a detailed exploration of your business domain. This involves understanding the intricacies of your business processes, the challenges you face and the goals that you aim to achieve. Our team of experts will work closely with you to model these processes, ensuring that the architecture we develop is tailored to your specific needs.

Once we understand your business domain, we move on to the architecture creation phase. Here, we leverage our expertise to design an architecture that will drive efficiency and value creation for your organization. Our designs are future-proof, scalable, and flexible, allowing for easy adaptation to changing business needs and technological advancements.

We consider all aspects of your business, from the operational to the strategic, ensuring that the architecture we develop is comprehensive and holistic. This approach allows us to deliver solutions that are not only technically sound but also commercially viable.

We also strongly emphasize collaboration and communication throughout the advisory process. Our team will work hand-in-hand with your stakeholders, ensuring that everyone is aligned and that the architecture reflects the collective vision of your organisation. This collaborative approach is critical to create an architecture that truly supports and enhances your business functionality.

One of our key offerings is legacy system modernisation. We understand that modernisation is not a one-size-fits-all solution; therefore, we tailor a modernisation plan that aligns with your business needs and goals. Our team of experts conducts an in-depth evaluation of your legacy systems to identify critical functionalities, assess system performance, and determine the best modernisation strategy that minimizes disruption to your operations.

Our strategic replacement planning is designed to ensure that your new system meets current technological standards and positions you for future growth and innovation. We consider various factors such as scalability, interoperability, and maintainability while planning to replace or enhance your legacy systems. This foresight ensures the new architecture is robust enough to adapt to evolving business requirements and technological advancements.

Technical dependency mapping is a crucial aspect of our service. We meticulously analyse your existing systems to create a detailed map of all technical dependencies. This map guides our understanding of the intricate web of system interactions and dependencies, which is vital for ensuring that the modernisation process is comprehensive and considers all potential impacts on your business processes.

Our thorough analysis extends beyond technical aspects to include business implications as well. We

Building **Better** Digital Products



evaluate how the modernisation will affect your operations, staff, and customers, ensuring the transition is seamless. We provide enhancement recommendations that address the technical needs and bring about operational improvements, leading to increased efficiency and productivity.

Another spectrum of our expertise is database migration, where we prioritize data integrity, accessibility and adequate data structure modelling. Choosing the appropriate database type requires a thorough understanding of the data's nature, relationships and intended use cases in the new system. Those factors significantly affect the migration process itself. Some databases may require extensive planning to ensure the relationships and schema are accurately replicated in the new system. Others might offer a smoother transition for data that doesn't fit neatly into a schema but may require additional effort to implement search functionality and maintain data consistency. By employing techniques and tools backed by experience, we ensure that your data is transferred securely and efficiently, maintaining its integrity throughout the process. This approach to data migration lays the foundation for improved performance and scalability, enabling your business to leverage the full potential of cloud computing.

The architecture advisory service that we offer is not just a solution but a strategic partner in your journey towards digital excellence. It is designed to ensure that your architecture meets the current demands and is poised to evolve with your business's future needs. Our commitment to knowledge sharing and transformation facilitation is unwavering, as we offer a comprehensive suite of services that empower your internal teams and align digital strategies with your core business objectives.



Key Features

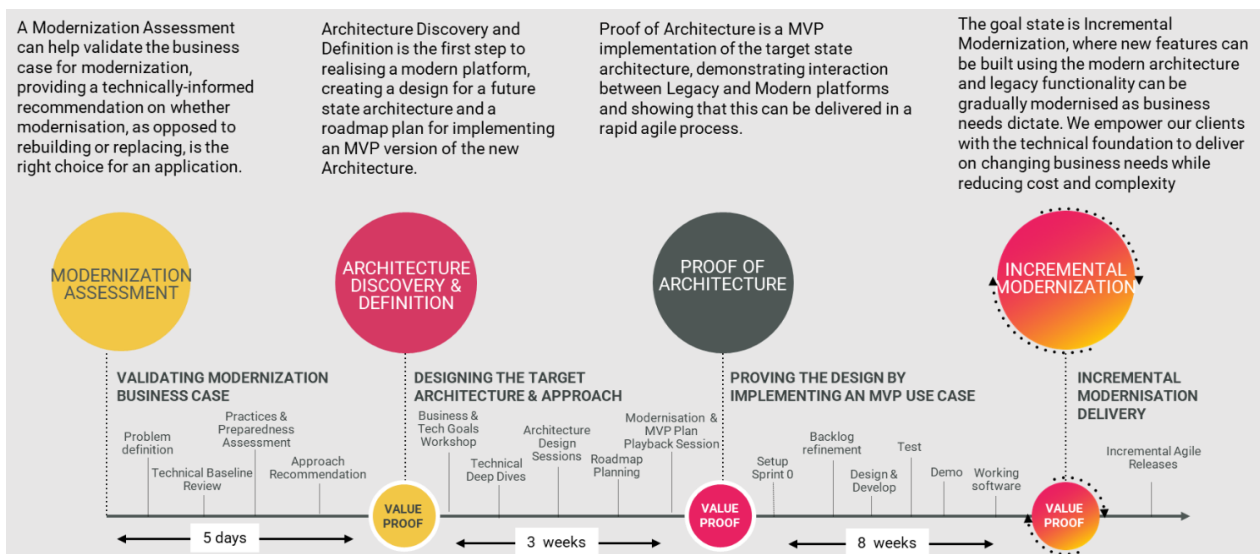
- Legacy System Modernisation
 - Preparing and planning modernisation for legacy systems
 - In-depth legacy system evaluation coupled with strategic replacement planning
 - Technical dependency mapping, thorough analysis, and enhancement recommendations
 - Enabling event-driven architecture in existing synchronous systems
 - Adapting existing architecture to meet business needs
- Business Process and Domain Exploration
 - Exploration of business domain and processes within an organisation
 - Modeling business processes and creating architecture aligned with it
- Strategy Development and Roadmapping
 - Product road mapping through product and software lifecycle
 - Developing engineering strategy within an organisation
 - Defining software architecture strategy and roadmap, setting a clear direction for organisation
 - Define architecture drivers for a variety of services within a product or organisation
- Migration Solutions and Planning
 - Creating cloud migration solutions and plans
 - Creating database migration solutions and plans
- Knowledge Sharing and Transformation Facilitation
 - Sharing experience and knowledge with internal teams
 - Technical and business-oriented workshops lead by senior consultants and architects
 - Streamlining digital transformation through thoughtful analysis, planning, and prioritizing

Benefits

- Offers cost-effective access to specialized resources, enhancing resilience and agility.
- Promotes service improvements and cost efficiencies driven by client needs.
- Facilitates definition and achievement of organizational goals.
- Aligns solutions with strategic objectives and business requirements.
- Streamlines business and technological frameworks, preventing redundancy and improving efficiency.
- Mitigates risks related to digital operations, security, and compliance.

Building Better Digital Products

- Provides scalable, on-demand enterprise architecture support.
- Available for project-specific or continuous 'as a service' engagement.
- Advises on leveraging services and platforms effectively.
- Offers expert guidance on optimal technology utilization.
- Assembles diverse teams for comprehensive project perspectives.
- Reduces project expenditure by offering specialized technical advice.
- Expertise in technical migration across on-premises, hybrid, and cloud environments.
- Design forward-thinking technology and platform strategies to prevent vendor lock-in.
- Assists in defining and executing a well-informed technical strategy.
- Customizes services to align with specific business needs.





Case Studies

Major Healthcare Provider

A major healthcare trust required a brand-new system designed and built to address critical issues with their existing process and better serve their needs in the medical technology space (the previous approach was inefficient, potentially inaccurate, and difficult to maintain or scale). Specifically, the client required a way for care providers to review medical technology products for suitability and to communicate with suppliers who needed an efficient way to provide up-to-date product information in relevant formats.

gravity9 won the project tender process, transforming the experience and delivering the “Technology Adoption Platform” by designing and building a highly scalable web-based solution with the potential to serve the entire healthcare provider. After initial conversations, the project began with executive team discovery meetings to map what is “truly” needed, followed by iterative event storming to ensure the product meets stakeholders’ needs.

Built around MongoDB, Azure, React and Java, it reduces maintenance workloads, provides a clear communication channel, and enables storing relevant and accurate product information.

Utilised Technology Stack

- Cloud: Azure, Azure AD B2C, Terraform
- Database: MongoDB Atlas
- Backend: Java, Spring Boot
- Frontend: React, NextJS, MUI component

Employee Wellbeing Provider

Our client provides technical employee wellbeing solutions for physical, mental, and financial health. The client approached gravity9 and spoke with Founder Noel Ady to discuss a new module to their existing Mental Health solution that would enable communication between domain microservices and CRM (Customer Relationship Management) in a multicloud environment. Additionally, we would provide additional security, improve system performance, and provide domain separation.

The initial solution uncovered additional requirements, which gravity9 designed and built into the second iteration before conducting a final optimisation pass to streamline further, displaying an evolutionary architecture approach. The client was delighted with the overall result, especially gravity9’s ability to adapt and implement event-driven architecture.

gravity9 achieved a remarkable outcome that met all the client’s expectations, demonstrating expertise in designing and deploying event-driven architecture and delivering a solution that supports asynchronous communication and facilitates evolutionary changes in response to the dynamic business environment.

Utilised Technology Stack

- Cloud: Multi-Cloud
- QA: SpecFlow, Living Documentation
- Development: .NET Core

Building **Better** Digital Products



National Defence Organisational

A major defence organisation sought to reform how they generate useful analytics for gauging and reacting to public opinion to NATO operations in specific geographic areas. Their previous approach was to research and generate reports manually, which was resource-intensive, delay-prone, and at risk of accuracy issues. Partnering with MongoDB, gravity9 scoped, developed, and delivered a replacement cloud-based system over a three-week period.

The delivered system can collate data from multiple sources, allowing easy, customisable generation of data-rich reports based on up-to-date information plotted against any number of data points, including GIS. Built around React.js, Node.js, MongoDB, and Microsoft Azure, this system has reduced resource overheads and enabled rapid delivery of relevant and accurate information to decision-makers within the organisation. Resource and actual costs have also been reduced as a result.

Utilised Technology Stack

- Cloud: Microsoft Azure
- Database: MongoDB
- Backend: Node.js
- Frontend: React.js

Beauty & Pharmaceutical Retailer

As part of a fast-track ideation and rapid-build development project, gravity9 partnered with MongoDB to help a popular health and beauty retailer and pharmacy build a new Beauty Concierge application to increase customer loyalty and encourage repeat business in the retail domain. Prior to gravity9's involvement, no history of customer consultations or recommendations was stored, meaning returning customers would have to "start over" be re-interviewed, providing them no advantage at this vendor versus their competitors. The client outlined the project requirements, providing a starting point for a more profound consultation process in which gravity9 challenged, revised, and reached a consensus on the form and shape of the project.

A web-based solution was created, tailoring the customer experience via an accessible in-store app. The app maintains customer profiles and preferences allowing consultants to access this information as well as sales logs and KPI's, creating a more personalised, bespoke service unique to the client. The product is built with a .NET Core backend, Angular frontend, and MongoDB database.

The solution has been delivered to the client and initial reception has been extremely positive, with scope for additional functionality, integration, and quality-of-life improvements to be added later. Customers can enjoy a more intimate shopping experience which encourages trust, brand loyalty, repeat business, and increased footfall versus competitors.

Utilised Technology Stack

- Cloud: Microsoft Azure
- Database: MongoDB
- Backend: .NET Core
- Frontend: React



How To Get Started? What We Need From You

We start our process with a simple conversation, discussing the challenges and opportunities that lie ahead of you, touching on potential solutions and how best to proceed. Every scenario is slightly different and we provide a range of offerings that our agile project delivery process supports. As part of this initial step, we may request information from you to get a better understanding of your current set up. This may include information on your technology set up, infrastructure, size and type of data in your system as well as high-level business context.

To get started on a project, our team members will most likely have to be onboarded to your systems. We follow your requirements as part of the onboarding process. It is also common that we ask you to share any kind of documentation that provides a detailed view into your business and technology set up. Any baseline information in terms of the KPIs you are trying to meet would also be considered helpful.

At the core of our process are individuals with deep experience of a range of subjects and methodologies. We discuss any additional needs to get started on a project at the beginning and then aim to make change happen one step at a time in a transparent and tangible fashion.

Building **Better** Digital Products



Enquiries

For enquiries, please contact:

Allan Hudson

Bid Manager

+44 121 679 0842

tenders@gravity9.com