

Software Development

A WHITEPAPER BY

[deft]

Software Development by Deft

Successful software development, especially cloud-native software development, is the result of transparency and collaboration. Clearly defined objectives, processes and a detailed outline of roles and responsibilities are where this collaboration begins.

At Deft, we pride ourselves on going far beyond other software development firms. Based upon 20+ years of experience, we begin our partnerships by listening. It is only after we understand where you are, and where they want to go, that we begin the pursuit of your outcomes.

Our Cloud-Native Software Development Projects are defined by six distinct phases:

- Discovery
- Design
- Build + Enhance
- Delivery
- Maintenance
- Ownership

These critical steps establish the foundation for successful Cloud-Native Software Development Projects and the development of long-term partnerships between our firms.

Discovery

Each software development project begins with Discovery.

Our team will meet with and interview end users, product owners, key stakeholders, and management to identify the clients' specific needs.

- Is there a disconnect between management and end users? We can find it.
- Are end-users asking for a feature to get around an issue when the root of the issue is still unaddressed?

We work to identify your core needs and address these, rather than superfluous features that only mask the true problem.

We will identify and define both explicit and implicit goals so that the resulting application – and ongoing development processes – meet today's and tomorrow's requirements.

Once application discovery is complete, our team of designers will put together wireframes and mock-ups. These resources help you see the desired end state and provide feedback on the product before development has begun.

Design

The design phase is a prescriptive phase.

During Design we will:

- Develop a comprehensive plan and architecture that supports current requirements and future growth expectations for your application and systems.
- Leverage our unmatched, 20+ year experience in enterprise IT, cloud, and cloud-native software development.
 - » Have we done something like this before? Have others?
 - » What is the state-of-the-art solution – and is it viable for your business?
 - » What is the “next step” necessary to evolve today's best practices?
- Develop comprehensive architecture diagrams so your technical teams understand the solution we're putting together.
- Provide cloud-native solutions, designed to:
 - » Provide always-on, high-availability SLAs
 - » Take advantage of the near infinite scaling capability the cloud
 - » Spin up new instances when they are needed and quickly scale back to reduce costs when usage is low – so your SLAs and performance expectations are always met

“Customer expectations are far exceeding what you can really do. That means a fundamental rethinking about what we do with technology in organizations.”

George Westerman

MIT principal research scientist and author of *Leading Digital: Turning Technology into Business Transformation*

Build + Enhance

This phase is where the requisite infrastructure is deployed, and the application is written.

Our Cloud-Native Software Development Projects are iterative processes. This allows us to continuously deliver value to you and your applications. Throughout the Build + Enhance phase, you are able to review our work on a regular basis and will be asked to provide feedback early and often.

This collaborative approach ensures we can address issues and make changes as quickly as possible. We want to avoid any wasted efforts (time, money, resource availability, etc.).

We build applications using a variety of programming languages, architectures, and tools. Our experience enables us to recommend the most appropriate solution for you, your team and their internal skillset – or desired future skillsets.

We also recommend the development (or adoption) of containerized solutions. This enables the application to be built and shared easily between our firms – as well as offer the highest degree of portability between hosting platforms should that situation arise.

Every Cloud-Native Software Development Project contains comprehensive code reviews throughout. In code review we don't just check that the code works. We go beyond this common step to make sure it is well designed and meets current and future business and usability requirements.

We know your business and objectives will change. This is why we focus on, and deliver, well designed architectures. These architectures meet present requirements and can be enhanced to meet future needs.

Should we be working with an existing application, we do not “bolt on” new features of functionality.

Instead, we leverage our Cloud-Native Software Development experience to systematically develop new capabilities for existing applications so they are part of the application itself – including existing development and deployment pipelines.

Delivery

When we deliver a Cloud-Native application, we do not hand it to you and your team so you can figure out how to run it. This is, unfortunately, very common in custom software development projects.

At Deft, we aren't going to ask you to run the application at all (unless you want to). Instead, we will setup the comprehensive application environment including networks, encryption, security, access, etc. for you. This includes setting up domain names (and TLS!) for public facing websites and APIs.

To ensure consistent and successful delivery of our Cloud-Native Software Development Projects, we will also utilize comprehensive Infrastructure as Code (IaC) models and automate as much as possible.

- We use Infrastructure as Code (IaC) so all environments are set up consistently, and changes in one environment can be repeated across all others.
- We use Continuous Integration and Continuous Delivery (CI/CD) tools and processes to automate deployments, speeding up the time to delivery while reducing vectors for human error.
- We require updates to database schemas are tracked as migrations and committed into version control to ensure updates happen consistently, as well.

Our work isn't done when the application launches into production.

Your needs are going to grow and evolve (often unexpectedly) as their business changes.

We set ourselves up to be there throughout the Application Lifecycle Management process so that we can provide assistance in any ways necessary. This continued engagement also enables us to continue to work with our clients to address new issues or feature requirements that came into focus only after the application is in production and in use.

To ensure everything is managed intelligently, we deploy a comprehensive set of support and management tools to inform us and our clients of the application's performance.

- We setup distributed tracing so clients can follow requests through their system
- We setup detailed logs so they can get as much information as possible as to what is happening in their system
- We deploy telemetry and monitoring tools (such as Zabbix/New Relic/Cloudwatch) to provide real-time performance alerts – and can even serve as front-line support and management for performance alerts if needed.



Ownership

Ownership of software products is always a difficult topic of conversation.

With Deft, you have and maintain full ownership of the cloud-native application we have developed for you.

When we refer to ownership, we refer to our ability to be there with you, collaboratively, to make sure the application is working as intended and remain in alignment with the impacted business processes.

We can provide a dedicated product champion, support resources, education and training sessions, whatever makes the most sense for your application and your business.

We are committed to serving on your team however you need us to ensure that success is complete and comprehensive for today's and tomorrow's opportunities

Additional Questions

For more information, visit <https://www.deft.com/> or contact us at (312) 829-1111 and sales@deft.com

About Deft

Deft offers **managed cloud** services, **cloud consulting**, **cloud-native software development**, **business continuity** solutions and **managed data center** services. We work with companies, large and small, that see IT as their critical success factor.

Deft is a SOC 2 audited company. We are proud to be an 8-time Inc. 5000 Honoree.

Learn more at www.deft.com or call us at (312) 829-1111.