

HOW WE DELIVER

Celfocus Cloud Migration: From Data Centre to Data Anywhere

Key Takeaways

Understanding why Cloud Migration is critical for Digital Transformation.

Learning more about the steps that guarantee a painless live roll-out.

Knowing more about Celfocus's Cloud Migration methodology.

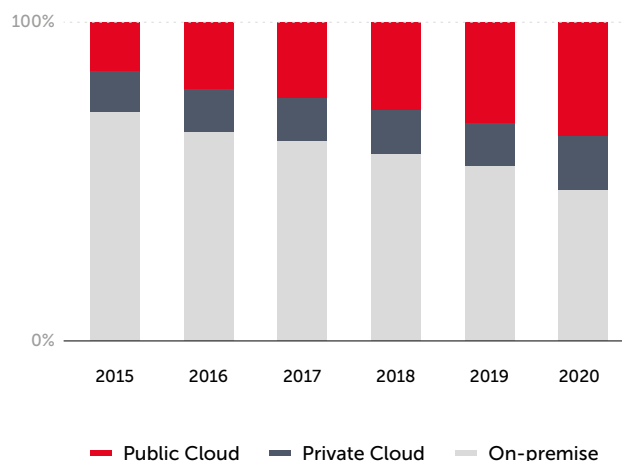
Guaranteeing a Smooth Transition to the Cloud Without Disrupting Business

Infrastructure and Operations departments are under massive pressure to migrate their on-premise system workload to the cloud for cost reduction, business flexibility increase and security improvement.

A successful migration is a competitive advantage since it allows a faster capacity to adapt to business demands in real-time. According to Gartner Research, more than 70% of organisations have started the migration of at least a part of their workloads to the cloud.

To guarantee a successful migration, each migration process must be considered unique, with complexity depending directly on the total number of resources in each project's scope. The range of systems and platforms that can be migrated to the cloud is vast, with most of them already offering cloud-native versions.

Yet, even if organisations decide to move to the cloud to benefit from it more rapidly, a successful migration requires careful planning. IT Leaders' main challenge is to define the starting point or understand the critical approach vectors, stages, technology, security policies and the transformation required to garner the best from cloud provider services.



IT leaders need to start with three basic questions such as **What will be migrated? Why is it being migrated? How will the migration be executed?**

Celfocus created a migration framework that allows clients to identify the best strategy and best capture the value of cloud migration.

No Strings Attached, **Setting the Journey**

Once the scope of work included in cloud migration activities is established, **their importance and how critical they are to the success of digital transformation** becomes clear.

Nevertheless, if activity planning and preparation are neglected, the result can be devastating because the gap between the expected effort and complexity and reality is too wide. Celfocus recommends a set of crucial steps to help organisations understand cloud migration best practices and build a customised roadmap. As with any migration, one fundamental aspect is to guarantee that the main stakeholders are aligned, understand each step's scope, goals and what they require to be achieved.

Going live with a new cloud system can either happen with a bang or follow a phased approach, depending on the chosen strategy. The first represents the total replacement of the on-premise legacy system where all the modules are migrated to the new cloud solution. With the second option, there is a period where smaller legacy system modules will be replaced, running in parallel with others until all the modules are migrated to the cloud.

Pitfalls to Avoid

When Migrating to Cloud:

- Lack of Cloud Setup Knowledge
- Choosing the wrong migration approach
- Poor design and resource optimisation analysis
- Managing the cloud as an on-premise data centre
- Not considering indirect costs
- Poor approach assessment



GET IT RIGHT

Where are you?

Analysis and validation of on-premise conditions



> STRATEGY

Where do we want to go?

Define the strategic vision, the solution design and the change phases



> PLAN

How will we get there?

Define the roadmap, the dependencies and unite all the involved parties



> MIGRATE

How do we execute?

Data Migration and Application Migration, adapt and transform



> OPTIMISE

How can we benefit the most?

Refine sizing, performance and services



> TEST & OPERATE

Are we there yet?

Operational Readiness, Test High Availability and Business Continuity

Regardless of the chosen strategy, business continuity must not be jeopardised. It is critical to have a global alignment between all stakeholders, whether IT partners, infrastructure or customers.

Before introducing Celfocus's approach to Cloud Migration, we'll go through the Celfocus delivery approach to understand how the company frames it in different delivery methodologies.

Celfocus Delivery Framework

The ability to execute changes in a complex IT architecture and to assure high-quality standards and solution sustainability is what any organisation demands when launching new products and services.

Celfocus Project Management methodology uses a proprietary “Delivery Framework” and was designed to respond to the most demanding and fast-paced projects.

This framework consists of a set of **processes, assets, and reusable components** laid out to respond to project failure risk and accelerate development, allowing Celfocus to address very dynamic and demanding businesses with a very high success rate. The framework

is ISO9001:2015 certified and comprises the Celfocus Project Management methodology, the Solution Framework, and Celfocus Agility Flow.

To determine the most suitable delivery methodology for each context beforehand, Celfocus focuses on understanding the nature of the client and of the challenge it has to tackle.



Waterfall

When definition, not speed, is key to success.



Agile

When focus on delivering business value on a constant pace is more important.



DevOps

When E2E cooperation and efficiency are a must.

Solution Framework

The Solution Framework is Celfocus's certified methodology for delivering Waterfall projects and professional services. Using this approach, the Cloud Migration Design and Requirements are defined at the start of the project. Celfocus recommends this approach

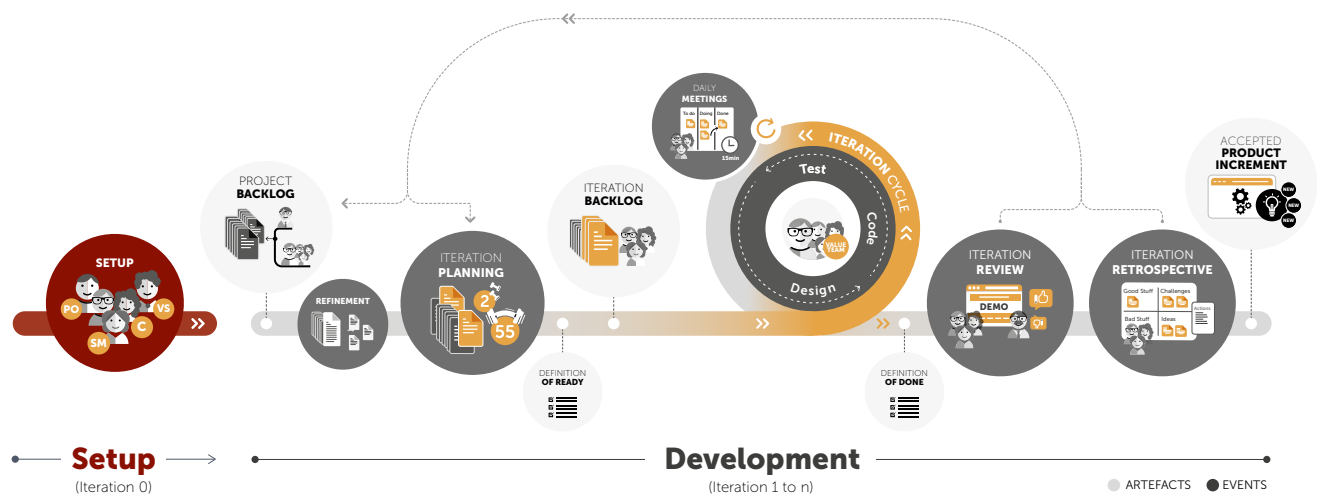
when the requirements are very clear and are not expected to change. During the build phase, Celfocus engages with the different stakeholders to guarantee the appropriate alignment with the Deploy phase, after which it delivers stabilisation support.



Celfocus Agility Flow

Celfocus's certified methodology for delivering Agile products, projects, and services. It maximises business value by empowering teams with greater flexibility

on requirement introduction and prioritisation while providing quick and incremental system functionalities.



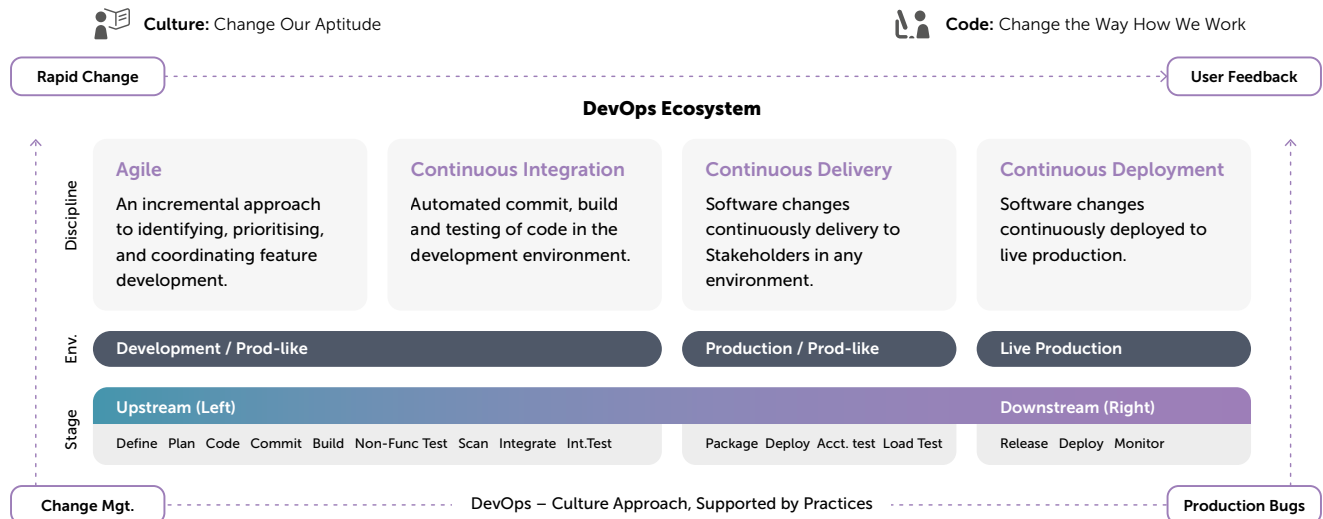
Celfocus uses an Agile methodology for executing Cloud Migration projects when several different modules can move independently to the cloud. With this approach,

there is a decrease in risk since the solution's smaller modules will be moving to the cloud, which is a more iterative approach.

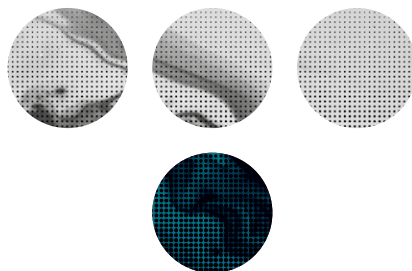
DevOps Delivery Approach

The DevOps approach seeks to combine application development and deployment into a more streamlined process, shifting some of the operation team's

responsibilities back to the development team to facilitate the continuous development, integration, delivery and monitoring processes.



Celfocus Cloud Migration DevOps approach allows establishing a collaborative and iterative approach to moving to the cloud, prioritizing the first workload and increasing the number of modules being migrated according to the priorities defined with the client.



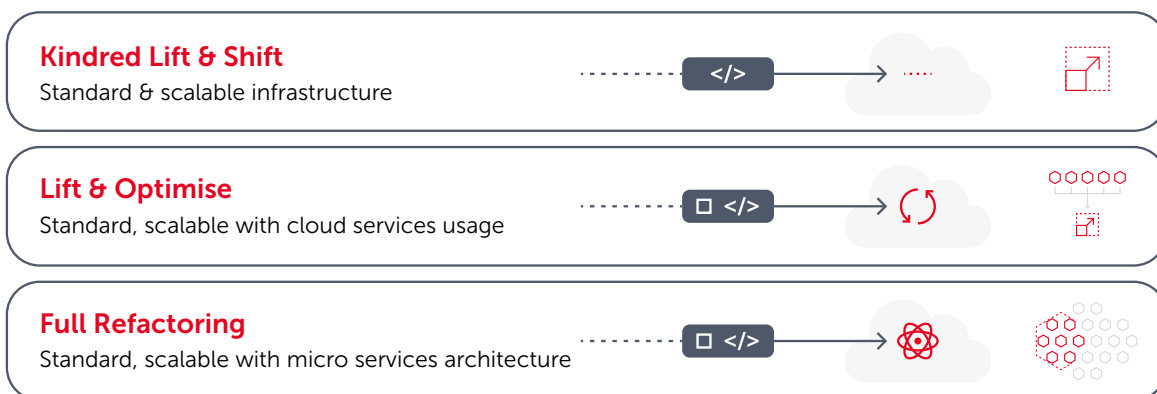
Celfocus Cloud Migration Approach Models

Cloud migration will not be the same for everyone, for there are as many processes as there are systems. Nevertheless, there are three major approach categories:

1. A direct lift and shift transition from traditional on-premise infrastructure to cloud equivalent structures.

2. A transition to cloud-based architecture with the required adjustments and optimisations to use the improved cloud features.

3. A complete transformation to cloud-based architecture with full refactoring to make the most of its advantages.



1. Kindred Lift & Shift

The first approach is the most straightforward way to migrate, essentially taking the components and installing them on an equivalent cloud architecture. Some adjustments are invariably required, but in essence, the infrastructure is copied as-is: the same network layering, equivalent hardware capacity and same functionalities. Using this approach, gains in the day-to-day infrastructure management as it becomes standardized are easily

detectable. Adjusting the size or number of components also becomes a standardized and streamlined process, cutting through the red tape usually found in on-premise installations. Some monitoring and observability come out-of-box with the migration, and there is greater transparency in operation costs, allowing the solution to be fine-tuned to avoid extraneous costs.

2. Lift and Optimise

The second type of transition is the most common. It entails migrating the on-premise components to a cloud-based architecture mindset, using most of its advantages and shedding some of a full migration's weight. Most on-premise components can benefit from transitioning from standard hardware to a cloud-based equivalent with no performance loss. This transition also has implementation

and operating cost advantages: using features like Database-as-a-Service, Hot & Cold storage for different component performance requirements, and having access to discrete reports for each operational aspect, makes it possible to adjust the solution for maximum efficiency at the lowest possible cost.

3. Full Refactoring

The final approach is a bit of a misnomer. Rather than migrate the current components, the whole solution is analysed, redesigned and adjusted so that its functionality and purpose are not only maintained but upgraded. It is, in fact, a total transformation from traditional to cloud-based architectures. Services become containerised micro-services, network and hardware and their monitorisation are managed by built-in solutions, and

cloud services provide functionalities like databases. It is an opportunity to improve current implementation and future-proof it dramatically. Of course, all the advantages of the cloud come with it: elastic sizing, on-demand architecture adjustments, ci/cd features for microservices, and others. Performing full refactoring is an opportunity to maximise long-term cloud cost savings.

Celfocus implements the approaches in discrete steps:

- 1. Get it right:** In-depth study of the on-premise technologies and processes.
- 2. Strategy:** Define the journey and the strategy to achieve it, detail the solution's design in the cloud. Design and prepare automation for the migration.
- 3. Plan:** Plan a phased migration, starting with stateless and ending with the stateful components, define a governance model with all the key stakeholders.
- 4. Migrate:** Execute data and application migration, adapt and transform according to the defined design.

- 5. Optimise:** Evaluate performance, refine sizing and adjust the services required for the solution in the cloud.
- 6. Test & Operate:** Follow a strict Operational Readiness process, execute a security audit, test both infrastructure and application according to the migrated business process. Go live with the solution in the cloud.

This step-by-step activates the specialist teams on a need-to basis and gives us a clear landmark-based timeline to plan around and deliver. This, in turn, allows real-time process visibility for clients and keeps track of the executed activities in a macro view.

Celfocus Infrastructure as a Code Framework

Manually executed traditional installations have several issues: they are error-prone, difficult to properly document, depend on human resources, which may not always be available, and, worst of all, are almost impossible to replicate exactly. Infrastructure as a Code solves all these issues and provides the much-desired benefits over traditional infrastructure installations: speed, adaptability and reliability.

Celfocus cloud migrations are executed within this methodology, which comes into its own when migrating a multi-environment solution. Any installations following the first are guaranteed to function correctly and be deployed much faster. This also opens the possibility of quickly deploying an entire infrastructure, or parts of it,

should the need arise due to a predicted increase in the number of requests, for example.

Celfocus Infrastructure as a Code Framework enables a complete set of automations to allow a quicker and less error-prone Configuration and Provisioning of new environments in the cloud, including several playbooks that enable the automatic installation of market lead products and applications.

Celfocus Infrastructure as a Code Framework can **decrease by more than 90% the installation and configuration** of new environments during a migration to the cloud.

Security on Cloud Migration

Cloud migration can enhance digital transformation but also heighten risk. With careful implementation, communication across involved parties, proper tooling, and consistent monitoring, cloud services can ensure data privacy and security.

An organisation's mindset needs to move beyond reactive measures in favour of proactive solutions to avoid diverse threats. Celfocus has experience and expertise in multi-cloud scenarios to support end-to-end cloud migration using a Security by Design approach.

Security by Design



Requirement Assessment

Identify security requirements as Confidentiality, Integrity and Availability.



Automation

Use automation processes to build standard secure environments: build, destroy and reuse



Build Secure environments

Define the base to build a secure environment



Monitoring

Monitoring platforms that permit identifying system activities and threats

Moving Vodafone Ireland's Omnichannel Portal to AWS Cloud

CASE STUDY

The Omnichannel portal migration to the cloud was a challenging project for Vodafone Ireland. It embraced **next-generation cloud migration approaches anchored within a deep knowledge of the applications** to be migrated. This ensured the necessary adaptation to garner the most from the better-performing cloud services, improving customer experience and better resource utilisation, performance optimisation and lower operational costs.

Vodafone Ireland Customer Portals and eShops, critical unassisted channels, ran on-premise fragmented virtualised environments and settled on decommissioned product versions. Static, outdated, and overprovisioned servers are a must-have to support seasonal campaigns and traffic.

Celfocus and Vodafone created a **Cloud Centre of Excellence migration team**, building a tool, process and documentation factory.

Application and cloud environment updates to the most recent versions required code adaptation across all the board. Infrastructure standardisation required Infrastructure as Code and a renewed CI/CD. The migration and modernisation path culminated in a fully AWS migrated solution that enhanced a full-support auto-scale in a cloud-native way.

This cloud migration provided consistency to Vodafone Environments and configuration across all infrastructure, system capacity to auto-scale and adapt according to request volume, fully automated deployments to reduce time-to-market, process transparency, improved resilience and solution reliability.

Key Winning Factors

Staff Training in technology and processes

Mindset switch from 'against change management' to 'infrastructure as code'

CI/CD framework implementation to allow faster deployments and testing

Planning and implementation of **auto-scaling native processes** to adapt to business needs

About Celfocus

Celfocus is a fast growing, global high-tech company with a reputation for developing and implementing successful projects and solutions that drive business value.

By combining a deep business knowledge with the understanding of different technologies, while never losing sight of the customer experience, Celfocus built a reputation leveraged on an unexcelled track record.

Serving Clients in 25+ countries, Celfocus helps organisations transform their business in order to improve competitive positioning and ultimately their performance.

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