CLOUD NATIVE APPLICATION
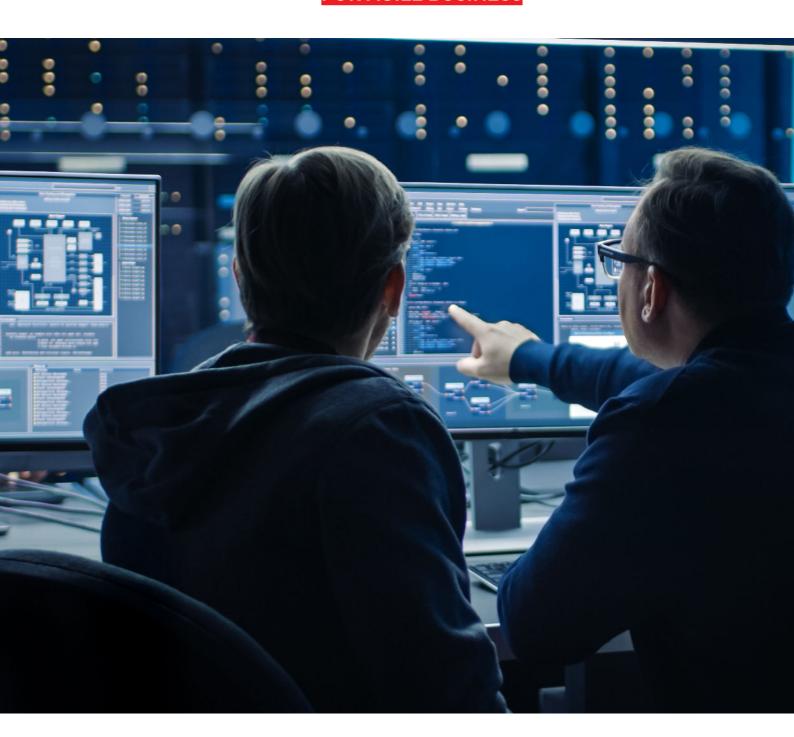## FOR AGILE BUSINESS
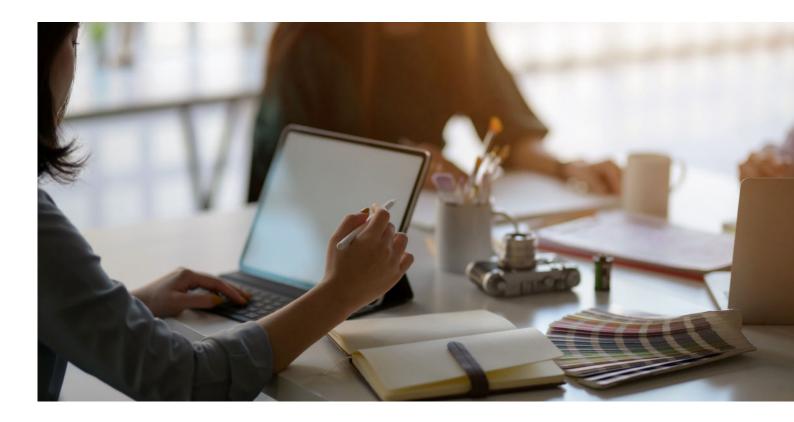
SAVOYE

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APPLICATION CLOUD NATIVE
POUR ENTREPRISE AGILE

INTRODUCTION

In a world where digital technology holds a predominant place, Cloud Native applications are naturally positioned as a differentiating factor within companies. The supply chain is no exception to this rule and logistics software publishers (WMS, TMS, etc.) are now able to offer smart, modular and scalable applications that meet a need for agility for companies and better collaboration with external service providers.

WHAT IS A CLOUD NATIVE APPLICATION?

Modern, designed and developed to run in the Cloud, a Cloud Native application allows you to benefit from all the advantages of the Cloud. But just trying to transcribe an existing application and deploy it in the Cloud without rewriting it is not enough and does not make it a Cloud Native application. A certain number of legacy applications have been deployed in hosted mode, without necessarily addressing all the components of cloud mode.

To claim to be Cloud Native, an application must have actually been designed to run in the Cloud. It is based on a modular, flexible and scalable architecture based on the assembly of components already optimized for the Cloud. If it ticks all these boxes, then it will be able to take advantage of all its assets.

WHAT ARE THE USES AND ADVANTAGES OF THE CLOUD?

A cloud application benefits from many advantages :

It is a hosted solution that makes it possible to limit infrastructure costs (the amount of which is often high from a purchasing, but also operation standpoint), while providing security and significant guarantees. Billed in a predictable manner, the rental model makes it possible to go from an investment budget to an operating budget with reduced administration costs, with system management being outsourced to data centers.

A Cloud Native application offers great scalability as well as regular and rapid updates. The application is always up to date and available. Maintained by the publisher, this latter ensures version upgrades, corrective patches, security patches, etc. Cloud Native applications are therefore high availability applications on which downtime will be minimized or even eliminated.

A Cloud Native application necessarily induces the notion of flexibility since the resources are adapted to the need. Additional resources are allocated in the event of strong needs or released in the event of a drop in activity, which is not the case with conventional infrastructures. On older systems, resources often had to be increased during peak usage. It was then difficult to go back. The advantage of solutions hosted in the Cloud is to be able to increase the computing and processing capacity for a day, a week, a month, etc. and then to reduce it.

WHAT ARE THE USES AND ADVANTAGES OF THE CLOUD?

With a Cloud Native application, there is no installation on the client workstations. Daily management is alleviated and problems are reduced. Thin clients, which are standard market browsers, are used.

Finally, the implementation of a Cloud Native solution is very fast. Unlike a local infrastructure, in the case of cloud hosting, there is no need to supply machines (servers or other expensive equipment, etc.). This is just a conventional cloud deployment. The solution is therefore operational in a few days or even a few hours.

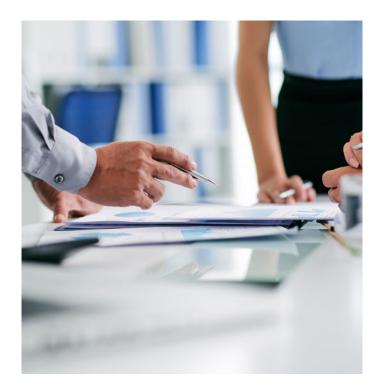## WHAT ARE THE CHARACTERISTICS OF A CLOUD NATIVE SOLUTION?

- It offers UIs in web mode and no longer a rich client as is traditionally the case.

- It makes it possible to work in cluster mode to benefit from a certain scalability and greater orchestrator flexibility, i.e. being able to work in multi-node mode. In fact, the user may never benefit from the advantages of such an infrastructure.

- For greater flexibility, Cloud Native applications are based on a microservice-oriented architecture: services that are independent of each other and that communicate with each other. Thus, the resources for certain services can be scaled up, while others are not, according to need and capacity. The application adapts to use. For example, some applications will require a large number of users. There may be redundancy of services which are purely web accesses, while in other applications, the problem will be elsewhere. The advantage of the microservice is to be able to adapt the load as needed.

WHAT ARE THE CHARACTERISTICS OF A CLOUD NATIVE SOLUTION?

- **The Cloud Native solution offers communications APIs and in particular REST APIs, which allow exchanges with the rest of the world, particularly in the case of exchanges between microservices or front-end layers.**

- **It optimizes the flows exchanged. The flows will pass through external networks. Their volume must be minimized to optimize response times and reduce costs.** The application should be designed to minimize these costs. For example, on a rich client, very large volumes of data are often retrieved, while the client only needs a few lines. An application intended for a Cloud will attempt to optimize the number of elements transferred by working in the form of a virtual grid.

- **The application should be designed to be automatically tested and deployed through a continuous integration chain.** Manual interventions are limited and deployments can be performed in multi-node mode, in an automated manner. This is the CI/CD approach. This approach is based on modern and dynamic languages that meet the requirements of the Cloud. Beyond the application itself, the tool core must also know how to address the Cloud.

- **Finally, another feature of the Cloud Native application is the management of the multi-tenant function.** As the application is deployed for multiple clients that share its use, it is essential to be able to physically segregate each customer's data. It is inconceivable to mix data from several customers. In many applications, data separation is purely logical; a simple key separates the data. In the event of an intrusion, the person who will manage to break in will have access to all the data of all the customers. A good cloud application will isolate the data domains of each of the customers. Everything is split and separated physically.

CONCLUSION

Always up-to-date, available 24/7 and highly secure, a Cloud Native application improves quality and reduces the risks associated with conventional infrastructures, while facilitating its access and use. It is by taking all of these requirements into account that we designed ODATiO.

First, with multi-tenant segregation. This notion was the cornerstone of our strategy: the data of each of the customers installed on the application are physically separated. The modular aspect was also an important aspect. Indeed, ODATiO can address WMS needs, TMS needs or both simultaneously. It could be deployed either as several distinct applications, or as a single application. It all depends on the customer's needs and location. ODATiO adapts to all contexts and even allows various OMS-type functional accesses or other to be considered.

In an effort to ensure continuous improvement, a Cloud Native application adapts to operating requirements, whether in terms of business load or number of users, time slots, etc. We have adapted this continuous improvement approach to the supply chain process: our ODATiO

solution offers new uses and of course new functions. It is an innovative solution in its approach, thus improving the production chain of our customers. It is aimed at different types of companies: from very small warehouses to very large international distribution centers and various professions.

Finally, our desire was to design ODATiO for external integrators. Its great configuration flexibility allows it to be easily integrated. Our solution has an editable rules and workflow engine to allow usage to be tailored to customer needs.

In conclusion, a modern and efficient Cloud Native application is increasingly essential in view of the advantages it brings to all sectors and in particular to the Supply Chain. By applying these precepts to ODATiO, Savoye offers you a solution that will accompany you throughout your growth.

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FOR YOUR LOGISTICS
AND SUPPLY CHAIN NEEDS

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Order preparation of light loads
X-PTS Goods-to-Person solution, smart conveyors,
high-speed sorting systems, robotics

Automation of shipping packaging
JIVARO, e-JIVARO, PAC 600, lidding, cardboard
wedging

Automated storage of heavy loads
MAGMATIC

ADVANCED SOFTWARE

Warehouse management and flows control
OMS, WMS, WCS, TMS, EDI

EXPERTISE MÉTIER

SAVOYE operates in key business sectors and has specific
expertise in each area.

The SAVOYE service offer is built on high-level "professionspecific" expertise. We provide tailor-made solutions for
every type of logistics warehouse, from the simplest to the
most complex layouts.

Retail logistics: 3PLs, specialist distribution
Multi-channel logistics: retail, e-commerce, mail-order
Industrial logistics: food, health and pharmaceutical industry, industrial supplies

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SUPPLY CHAIN SOLUTIONS