Case Study   Interzen Consulting

interzen® CONSULTING	Interzen Consulting - How to achieve high scalability by leveraging serverless cloud microservices and reduce development and maintenance costs

CUSTOMER

- Interzen

SECTOR

- Software development

PROBLEM

- **Maintenance and upgrade costs of IaaS virtual machines**
- **Performance limitations and high virtual machine rental fee**

INVOLVED TECHNOLOGY

- Microsoft Azure
- SaaS microservices in serverless mode

To reduce costs and increase scalability, Interzen chose to move to cloud microservices on Azure. A resource that simplifies software development while reducing costs for customers. Here is how, thanks to Pipeline, a real basic innovation was realized.

Interzen Consulting is a Pescara-based company that deals with consulting on information technologies, in particular those related to the simplification and automation of business processes. Founded in 1996, it boasts numerous customers and a cloud platform for the management of the lead to cash process, the ZenShare Suite (document management, IT protocol, CRM, project management, electronic invoicing).

A software provided in IaaS mode, that is, usable through a browser accessed via an account, with username and password. A mode that allows you to use the software even from mobile platforms seamlessly and with the same level of security.

Following the success of the software, Interzen enlisted the help of Pipeline to improve development capabilities. Over time, the Developing Team has created a framework based in part on the Aruba Business cloud with production carried out on internal servers. A software developed according to the classic philosophy of macro-applications, which could however be improved in terms of costs and performance by introducing software development for microservices into the company.

GOALS

- Optimizing the use of cloud resources with Microsoft Azure
- Offer the end customer of a better level of service
- Greater performance scalability and cybersecurity

SOLUTION ADOPTED

- Strategic plan for maintenance and updating of the IT infrastructure

RESULTS

- **Total scalability of services, infrastructure and performance**
- **Zero infrastructure maintenance costs**
- **Zero framework update costs**
- **Optimized costs, calculated based on actual usage only**

WEBSITE

https://www.interzen.it/

Develop in the cloud in SaaS mode

Carlo Guarino, Chairman and CEO of Interzen, explains the choice of Pipeline for the next step:

"To evolve our capacity on the performance side while reducing costs, thanks to Pipeline we have planned the transition from virtual machines in IaaS mode on Aruba Business, but managed by our staff, to serverless SaaS microservices on Microsoft Azure: our goal in the coming quarters is developing on a 100% scalable cloud".
The difference on a technical level is obvious. Virtual machines in IaaS mode include a rental fee that includes both the payment of actual use, the so-called "consumption", and the rental of the physical infrastructure, therefore all the specifications necessary for setting up one or more virtual machines, such as memory, graphics card and processor.

What is a totally scalable cloud

Carlo Guarino continues:

"Switching to a SaaS mode, on the other hand, means no longer having to rent the infrastructure, which becomes the general one of the cloud provider, and pay the service only for the calculation actually carried out by the processors. This means that when the processors are not working, the costs do not increase and the rental fees are drastically reduced.

This type of configuration is also called a totally scalable cloud. Instead of having our own part of the cloud, we use the public part managed directly by the provider; moreover, the new application development philosophy for microservices and no longer for monoliths allows software solutions to easily deal with situations of consistent application stress.

## Advantages of the advanced serverless SaaS architecture

The direct consequence of the use of services in SaaS mode is the serverless architecture. A mode that allows developers to create and manage applications without having to maintain the servers, which are updated and managed directly by the cloud provider. The serverless architecture works by using SaaS-type services as much as possible with some PaaS services.

The technical difference is obvious. In PaaS (Platform as a Service) type services, in the event that there is a greater need for performance, it is necessary to manually scale the system from the online control panel to add servers and virtual machines, paying them based on the rental time. The cost of SaaS-type services, on the other hand, is calculated on a per-call basis, that is, on consumption.

Concrete benefits of the SaaS architecture

Here then are the advantages that the Interzen development team has gained thanks to the transition to the new configuration:

- Total scalability of services, infrastructure and performance
- Zero infrastructure maintenance costs
- Zero framework update costs
- Optimized costs, calculated based on actual usage only
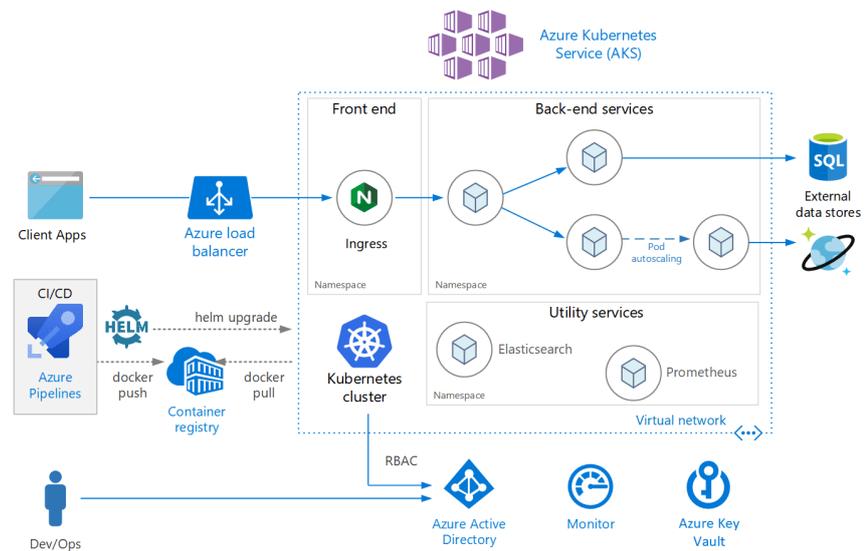
Azure microservices and the infrastructure of the new millennium

To move from the classic infrastructure to the new cloud configuration, Interzen chose the proposal of the Pipeline Team, consisting of a technical support part and another one of training on the job. A work carried out in an atmosphere of collaboration and professional exchange. The migration to the future microservices application was broken down into several steps to safeguard the security and integrity of the data in the step:

1. Realization of a POC on **Dockers** and **Kubernetes** in order to illustrate the technology and the steps necessary to adopt it internally;
2. Planning of the Microservices infrastructure in order to highlight the advantages and risks that may occur in practical application;
3. Assistance and support in the Change Management operation of the development team to help him complete the internal DevOps knowledge, already acquired but to be included in the Github and Azure contexts.

Activating microservices on Azure

The whole project and the technology used was based on microservices instead of macro applications. Microservices communicate through the http://protocol and behave like many small websites, exchanging packets of information between them.

But how to ensure the correct functioning of the application when the paths are so complex?

Containerization with Docker

To avoid incorrect application execution due to differences in configurations, underlying libraries or other dependent resources, Microsoft Azure provides Docker. **Docker** is a service that creates a lightweight, immutable infrastructure for packaging and application development.

In this way, albeit within a SaaS microservices paradigm, the resource dependencies and their configuration are included together in the same package in the form of a container image. In this way the various solutions of the ZenShare Suite can be tested as if they were a specific unit in the host operating system.

A development paradigm for the new millennium

These are the words of Carlo Guarino, Head of the Development Team and President and CEO of Interzen:

Thanks to Pipeline we have achieved a technical knowledge that makes our development team take a real leap in level.

The project is having positive repercussions on both the technical and economic aspects, allowing us to offer our customers web based solutions with high performance and above all ready to withstand greater workloads, reducing the cost of services.

All in an interactive way, where the technical configuration skills went hand in hand with the transfer of skills for the benefit of our team.