Expert opinion

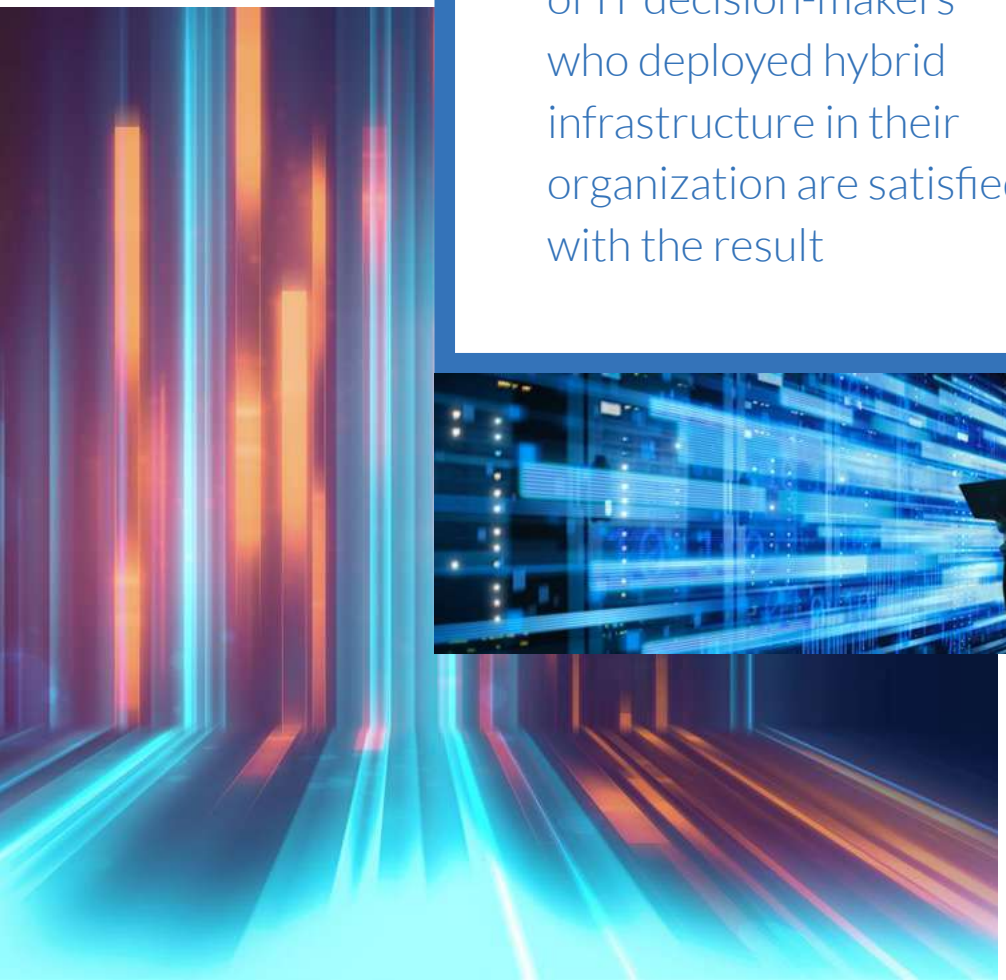
Hybrid infrastructures

Hybrid infrastructures: a complex but not inaccessible solution

A word from the editor

92%

of IT decision-makers who deployed hybrid infrastructure in their organization are satisfied with the result



Already in 2018, 70% of companies surveyed by the audit firm KPMG said they were investing heavily in the Cloud: this trend has been growing in recent years. Among the Cloud computing solutions on the market, there is also a particular attraction for hybrid infrastructures. Let's take stock of the situation.

Hybridization of infrastructures, a timely solution?

While we know that the private cloud today poses problems related to costs or its rigidity in terms of capacity, a study by the American firm Vanson Bourne has revealed that only 42% of a sample of companies worldwide consider that the public cloud has met their expectations. This is not so different in France, where the satisfaction rate is 30%, again according to the American firm. However, the same study reveals that in 2019, only 18% of French companies had deployed a hybrid infrastructure, while 92% of IT decision-makers in these same companies were satisfied with it. This contrast can be explained in particular by the complex but efficient nature of the hybridization of infrastructures.

Hybrid infrastructures: a major technical challenge

Hybrid infrastructures encompass a number of different realities, ranging from the hybrid cloud, which itself combines the advantages of public and private cloud, to physical (bare-metal) and virtual (VM) infrastructures. These interconnected solutions make it possible for data and applications to communicate in heterogeneous environments, but present some complex challenges. Among them, the question of deployment technologies for different environments, the issue of the centralized monitoring or the compliance with low latency challenges on platforms deployed in different locations. These complexities often represent a stumbling block for companies. Today, Iguana Solutions is taking stock of the issues related to hybridization and the solutions to meet these technical challenges.

1

The challenges with the hybridization of infrastructure

Hybrid infrastructures: many advantages...

«Before resorting to hybrid infrastructures, we need to ask ourselves the right questions to make the right choices: do we have performance issues? Do we need to manage fixed-period load peaks?», explains Nicolas Huret, VP Infrastructure at Iguana Solutions.

A frequently encountered case is the need for flexibility and scalability within a physical infrastructure to respond to one-off load peaks. Virtualization seems to be recommended because it allows resources to be added or removed on demand, most often with billing that corresponds exactly to the time the added resources are used. Conversely, some companies have perfectly anticipated the variable nature of their traffic and, as a result, have deployed an entirely virtual infrastructure to meet this need for flexibility.

However, this strategy has its limits, especially for heavy applications that do not scale horizontally (adding additional servers) but rather vertically (adding additional resources within the same server).

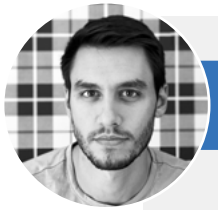
«One of our SaaS publisher customers only used the public cloud before using our services. Virtualization seemed to be the perfect solution, except for its databases, which consumed huge amounts of computing resources. We then deployed a hybrid platform consisting of horizontally scalable virtual servers for its application servers, and extremely robust physical servers for its databases, which are subject to a constant and considerable workload,» explains Guillaume Roux, Sales Director France for Iguana Solutions. Thus, the power of the bare-metal combined with the flexibility of the Cloud makes it possible to preserve the elasticity of the platform while optimizing its performance.

Nicolas Huret,
VP Infrastructures at Iguana Solutions

« We need to ask ourselves the right questions: do we have performance issues? Do we need to manage fixed-period load peaks? »

Behind this optimization, there is also the advantage of profitability. «The price/performance ratio of a dedicated server to a virtual server is another determining factor on large workloads. In the above-mentioned case, the physical machine deployed at Iguana Solutions enabled us to divide the invoice by three for the same resources previously deployed on the Cloud,» underlines Guillaume Roux.

Finally, some organizations that are very meticulous about the location and security of their data will instinctively resort to hybrid infrastructures, since they will enable them to host sensitive and critical services «on-premises», while leaving ancillary services in the Cloud.



Guillaume Roux,
VP Sales France at Iguana Solutions

« The price / performance ratio of a dedicated server compared to a virtual server is another determining factor for heavy workloads. »

… with their share of complexities

For companies, it is first and foremost a question of finding the partner who will be able to design a customized architecture adapted to their needs: a crucial first step for the rest of the project.

Once this infrastructure is in place, it needs to be monitored in an efficient way. The task is complex because hybrid platforms are often based on different technologies and different suppliers, each with their own tools. The challenge is therefore to find the right system or the right partner capable of providing homogeneity in the scraping and visualization of monitoring metrics.

Finally, there is the question of maintaining this platform as a whole. Many professionals with specific skills (systems engineers, network, datacenter, DevOps...) must be called upon to collaborate in order to anticipate and solve any problem that may arise in such a complex environment.

All these difficulties to overcome represent considerable challenges for companies and can be real stumbling blocks to the hybridization of their infrastructures. How to manage them efficiently? Discover the Iguana Solutions services.

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Iguana Solutions Services

Since 2000, Iguana Solutions has been helping its customers design, create and manage complex and critical infrastructures, whether on physical, Cloud or hybrid platforms.

Consulting, architecture & DevOps

Through its catalog, Iguana Solutions offers all the components of a hybrid infrastructure: private cloud, public cloud, bare-metal and interconnections with all public cloud players. Any combination is possible, whether it is a question of deploying an infrastructure from A to Z, integrating bare-metal into an existing Cloud, or vice versa.

However, hybridization of an infrastructure is not a ready-made solution. For 20 years, Iguana Solutions has supported more than 150 customers and its teams have been guiding companies in defining their needs and translating them through customized technical implementation.

Monitoring

Hybrid infrastructures require specific tools capable of aggregating the metrics of different cloud providers and different technologies within the same environment in order to simplify reading and correlation.

Iguana Solutions offers to its customers a real-time monitoring solution called «Sismology». It is compatible with the major infrastructure standards on the market (bare-metal, VMWare, OpenNebula, AWS, GCP), as well as with the majority of open-source middleware technologies (Apache, NGINX, MongoDB, Cassandra, MariaDB, PostgreSQL, etc.).

When metrics are collected, the solution aggregates the different data sources into a single system to provide a consistent view to the user. No more need to navigate between different tools to understand the health status of its platform.

Maintenance & evolution

The heterogeneity of hybrid infrastructures makes their maintenance in operational conditions more complex and requires a variety of skills: infrastructure, network, security, system, DevOps, etc. Through its outsourcing offer, Iguana Solutions opens doors to a wide range of experts and provides 24/7 platform support in an ISO 27001 certified environment.

A complete expertise that allows companies to, on the one hand, have sustainable infrastructures, and on the other hand, to focus on their core business.

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