

Numergy entrusted as “National Cloud” for France



Numergy, a private cloud service provider in France, delivers best-of-breed public cloud services to the French government, enterprises and entrepreneurs.

Business benefits

Acts as “digital powerhouse” for the French economy

By becoming a focus for France’s cloud initiatives, Numergy will help build and power an ecosystem of digital and cloud-related businesses within France.

Fulfills mission of providing cloud services for all organizations within France

Numergy’s architecture can provide cloud services for organizations of all sizes – from SME to service provider to central government. This capability also enables cost efficiencies in line with public cloud company behemoths.

Delivers high workload flexibility and unparalleled business continuity

A contiguous network spanning all current and planned datacenters enables a workload to be migrated either permanently or temporarily to handle demand spikes. Also, having a contiguous network is an absolute requirement for real-time protection against regional disasters.

Needs

Numergy was founded to focus on cloud services and to ensure the privacy of data at a national level for France. With this mission, Numergy needed to build a cloud that:

- Acts as a catalyst for an ecosystem of digital and cloud-related businesses within France
- Is composed of French or non-national components
- Serves the needs of organizations from small-to-medium enterprise (SME) size up to government scale
- Provides very high internal as well as external security
- Delivers complete workload portability
- Enables robust business continuity

These visionary goals called for the creation of an entirely new approach based on OpenStack® technology.

Numergy's approach

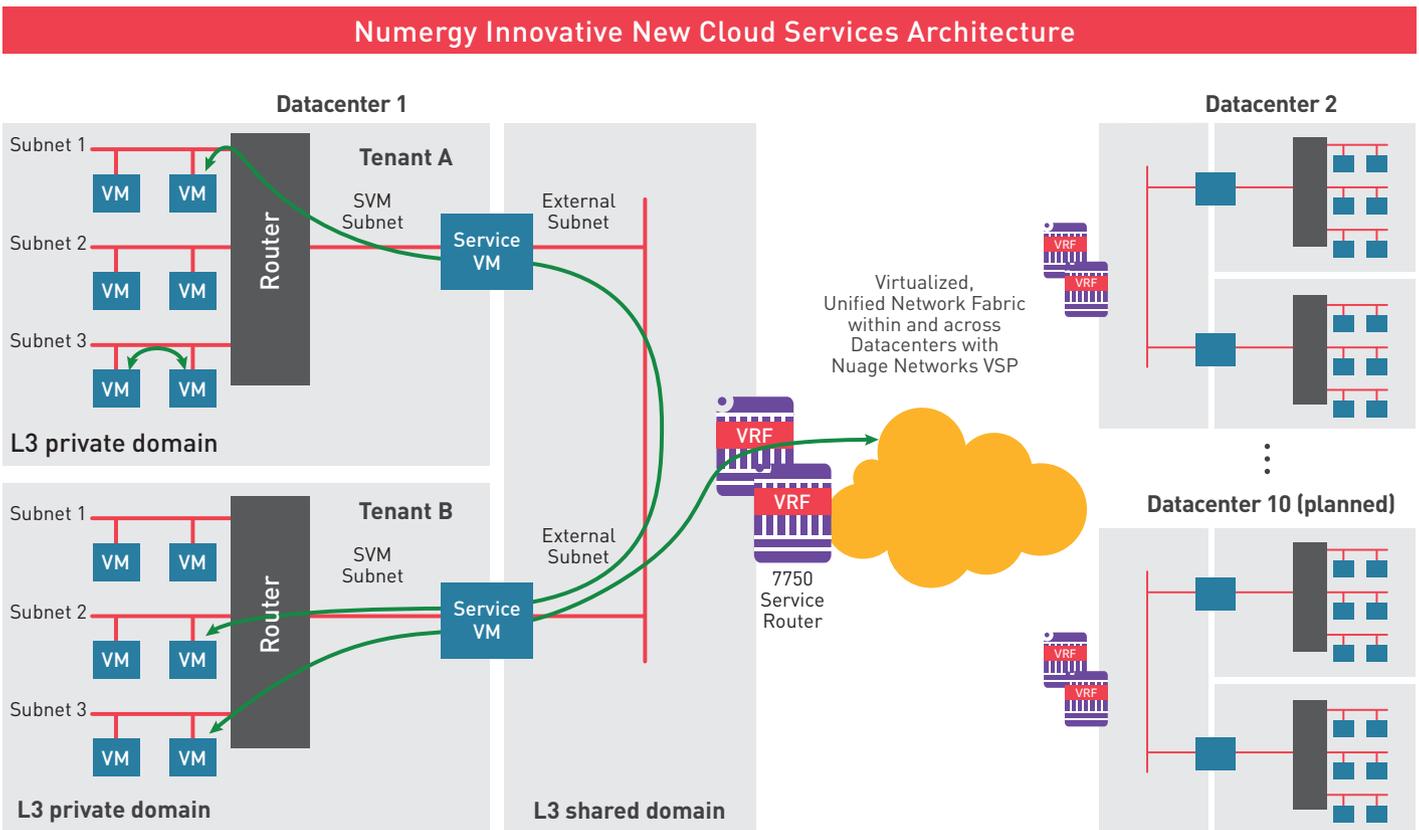
Numergy is leveraging OpenStack overall orchestration. To handle the needs of its diverse customer base, Numergy has built a user-friendly dashboard using the OpenStack Horizon framework. While customers interact with the system via the dashboard, Numergy administrators leverage REST APIs to interact both with OpenStack and with the Nuage Networks Virtualized Services Platform (VSP).

To handle the high-throughput needs at a national scale, Numergy selected the Nokia 7750 Service Router (SR). Nuage Networks VSP provides a virtual network overlay for a consistent, unified fabric over the entire network.

Numergy is also innovating new methods of cloud services delivery and control with a Service virtual machine (Service VM) architecture. A Service VM is placed at the boundary between a Tenant's L3 private domain and the L3 shared domain. Service VMs today control services such as firewalls, load balancing as a service, VPN as a service, and network address translation (NAT).

In the future, Numergy plans to add additional networking and value-added services as well as additional datacenters (10 are planned by 2018). Nuage Networks VSP's capabilities are key to rapid delivery of new services and the ready integration of the new datacenters into a unified network fabric.

FIGURE 1. Nuage Networks VSP provides a unified fabric for Service VM intercommunications



About Numergy

Founded in September 2012, Numergy is a company that specializes in the construction and operation of cloud computing infrastructure for French and European clients. With the support of its shareholders — SFR, Bull and Caisse des Dépôts, Numergy was designed to become a true “digital powerhouse” that will benefit the economy and drive growth. Its mission is to provide businesses (SOHO, SME, medium and large businesses) and public organizations with secure, efficient and competitive IT resources. Numergy ensures data is stored on French soil and commits that its infrastructure is both highly available and highly secure. More information: <http://www.numergy.com>.

About Nuage Networks

Nuage Networks (www.nuagenetworks.net) brings a unique combination of groundbreaking technologies and unmatched networking expertise to the enterprise and telecommunications industries. The Silicon Valley-based business has applied radically new thinking to the problem of delivering massively scalable and highly programmable SDN solutions within and across the datacenter and out to the wide area network with the security and availability required by business-critical environments. Nuage Networks, backed by the rapidly growing IP/Optical Networks business of Nokia, has the pedigree to serve the needs of the world’s biggest clouds. The cloud has made promises — the mission of Nuage Networks is to help you realize them.



“In public or private cloud, elasticity and automation are key elements. SDN and Nuage Networks give us that, with the additional benefit of compatibility with OpenStack, which is the framework we use to manage our platform.

For us, the main advantage will be to automate and simplify operation of the platform. But we will very quickly use Nuage Networks’ functionality to supply better cloud services direct to our customers.

Nokia was very innovative, and demonstrated the added value that a Nuage Networks solution could bring to our service offer, and how it could enable us to differentiate ourselves in the market.”

Erik Beauvalot, COO of Numergy

How this approach changes the game

This innovative approach helps Numergy change the game for its customers and its competitors.

Full datacenter capabilities

Most public clouds offer compute and storage but do not systematically address networking. Numergy’s approach provides a complete datacenter approach that spans compute, network and storage.

Full UI-driven self-service

Customers can control every aspect of their virtualized environment using the Numergy user interface. This capability both increases customer control and enables Numergy to handle staggering volumes of customers and VMs. In fact, Numergy projects a volume of one million VMs within the first three to five years of operation and non-disruptive manner — the entire installation or de-installation process takes only a few hours. New servers can be allocated to a vPOD nearly instantaneously via automation.

Service VMs

Numergy is innovating the concept of a Service VM for providing Software Defined Networking services. This architecture enables high scalability and security today while paving the way for additional network and value-added services in the future.

Full network programmability

Leveraging the Nokia 7750 SR capabilities for high-throughput physical transport, Nuage Networks VSP provides a coherent cloud network fabric that enables

programmability from the datacenter endpoint all the way through the network. The Nuage Networks 7850 Gateway was implemented to bridge bare metal resources. The fabric enables a number of Numergy capabilities such as consistent network service independent of underlying hardware, full workload portability among datacenters, and full programmability for future services.

External security and privacy

Multilayer external security provisions (not shown) protect customers from hackers and other external threats.

High security within the datacenter

Legacy security approaches focus on external threats rather than threats within the datacenter. Numergy’s Service VM approach isolates and secures the boundary between tenants. In addition, the built-in security of Nuage Networks VSP, including a default “Zero Trust” model, operates at the VM level. These capabilities provide security and isolation within the rack, within each customer’s operations, and within the datacenter.

Adding it all up

Visionary goals call for a visionary approach. Numergy is not only providing a national cloud for France but also moving the innovation curve for cloud technologies forward. By leveraging open approaches such as OpenStack technology and Nuage Networks VSP, Numergy is crafting its own innovations that can transform both cloud computing and the digital economy of France.