Automate, streamline, accelerate: Clermont-Ferrand University Hospital reinvents its database management with Nutanix

Clermont-Ferrand University Hospital has chosen Nutanix Database Service (NDB) to automate, streamline, and secure its database administration. The aim was to reduce delivery times, facilitate the adoption of new DBMSes, and enhance the appeal of the DBA role.

With over 2,000 beds, Clermont-Ferrand University Hospital is one of the leading healthcare institutions in the Auvergne-Rhône-Alpes region. It provides healthcare, teaching, and research services, and relies on a central IT infrastructure managed by a small expert team responsible for virtualization, servers, and databases. As early as 2015, Clermont-Ferrand University Hospital embraced hyperconverged infrastructure with Nutanix. In 2020, it virtualized its entire production environment on the AHV hypervisor. In 2021, it launched a new strategic transformation centered on Nutanix Database Service, aiming to streamline and secure the management of its database assets.

Challenges

For over a decade, Clermont-Ferrand University Hospital has been continuously modernizing its IT infrastructure with a clear focus: streamline, secure, and automate. A pioneer in the adoption of hyperconverged infrastructure, the institution deployed its first Nutanix Hyper-V cluster in 2015, before gradually migrating its entire production environment to the AHV hypervisor. This shift provided greater stability, performance, and streamlined operations.

Database management used to be fragmented. The DBA team focused exclusively on Oracle environments, while other engines—SQL Server, PostgreSQL, MySQL, among others—were deployed directly by ISVs, with no real oversight or structured maintenance. This lack of consolidation, combined with a heterogeneous infrastructure combining physical servers, SAN arrays, and ODA appliances, significantly complicated patching, testing, backup, and update operations. It also reduced the teams' responsiveness to the growing demands of business projects.

Despite a favorable contract with Oracle, Clermont-Ferrand University Hospital chose to rely on Nutanix to segment its infrastructure and better isolate its critical workloads. By deploying dedicated database clusters via NDB, separated from application VMs, the organization strengthened its operational control while simplifying governance. "We segmented the infrastructure in order to better control critical workloads. And we gave full control to the DBAs over all databases-related tasks: provisioning, management monitoring... everything goes through the Nutanix portal. We wanted to standardize our database management, just as we had done with virtualization", says Bruno Péan, Head of Infrastructure Team, Clermont-Ferrand University Hospital. The aim was to regain control over the entire database landscape, harmonize practices, accelerate delivery times, and gain autonomy in day-to-day operations.

Solution

Clermont-Ferrand University Hospital adopted Nutanix Database Service (NDB) to streamline and automate its database management. Two six-node clusters were deployed across its two sites, in line with the existing AHV infrastructure. Thanks

Sector

- Healthcare / Hospital

Location

- Clermont-Ferrand, France

Website

- www.chu-clermontferrand.fr

Benefits

- Fast and autonomous database provisioning
- Significant reduction in delivery times
- Streamlined operations
- Full automation via Ansible
- Increased attractiveness of the DBA role

Products

- Nutanix Cloud Infrastructure
- Nutanix Database Service (NDB)
- AHV hypervisor

Applications

- Oracle, SQL Server, PostgreSQL, MySQL, MariaDB databases
- Production, testing, and replication environments for critical hospital applications

to the “one-click” approach, DBA teams can create a server and a database in just minutes, without relying on network, storage, or virtualization teams. All engines—Oracle, SQL Server, PostgreSQL, MySQL, MariaDB—are provisioned using the same standards via a single interface that’s simple and reliable.

Designed for automation, the NDB console features an API-first architecture fully leveraged by Clermont-Ferrand University Hospital in its workflows and automation scripts: secure password generation, Active Directory integration, monitoring, system configuration, backups, automated tasks—everything is standardized.

“With Nutanix Database Service, we have been able to standardize our entire database management across all technologies. Whether it’s delivering a database, patching another, or cloning an entire environment, everything goes through the same interface with the same standards. This means greater consistency and efficiency for us.” — Mathieu Coussy, Database Administrator, Clermont-Ferrand University Hospital

Lifecycle management has been greatly simplified, whether patching an Always On SQL Server cluster, migrating an Oracle database from 11g to 19c, or deploying a scaled-up RAC environment. Another key benefit: the ability to instantly clone entire databases, even in siloed environments with network isolation. Clermont-Ferrand University Hospital relies on this feature for its critical projects, combining NDB with Time Machine to generate consistent clones from point-in-time recovery backups, ensuring application integrity.

> Nutanix Database Service has profoundly transformed the way we manage our databases—with increased autonomy, simpler administration, much faster deliveries, and openness to other DBMSes. Today, thanks to automation via Ansible, we save a significant amount of time every day.
>
> Mathieu Coussi,
> Database Administrator,
> Clermont-Ferrand University Hospital

In just four years, the institution has gained speed, agility, and robustness. Provisioning an Oracle RAC database takes less than 35 minutes, including testing. Refreshing an environment of over 20 TB is completed in a few hours, without disrupting production. Test databases are updated automatically and tailored to requirements using custom scripts. More than 100 Oracle databases are managed, alongside several Always On SQL Server clusters and a growing PostgreSQL fleet. Legacy appliances are being decommissioned, with a gradual migration to RAC clusters on NDB. Finally, intelligent cloning has significantly reduced storage consumption in test environments, enhancing the project’s profitability. By refocusing DBAs on high-value tasks, the solution has also restored the attractiveness of the role.

Next Steps

The automation enabled by NDB, combined with internally developed Ansible playbooks, has helped to establish a stable industrial approach. Clermont-Ferrand University Hospital now plans to expand these playbooks to further automate recurring tasks, particularly those related to monitoring and updates.

In addition, the DBA team intends to continue using the consistent cloning feature—already used in several critical projects—to simplify the creation of temporary environments for testing or application validation, without impacting production.

Key figures

- 2 Nutanix clusters dedicated to NDB (6 nodes each, across 2 sites)
- 100+ Oracle databases managed
- 450 production VMs migrated to AHV in 2020, now 800 VMs running on AHV
- 5 DBMSes operated: Oracle, SQL Server, PostgreSQL, MySQL, MariaDB
- 35 minutes: average delivery time for an Oracle RAC database
- 20 TB: total volume refreshed during a test clone campaign
- 5 groups of environments cloned simultaneously
- Up to 40% reduction in administration time
- 100% provisioning autonomy thanks to NBD + Ansible

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