

AGENCE NATIONALE DES FRÉQUENCES ATAKAMA TECHNOLOGIES HELPS ANFR IN THEIR DIGITAL TRANSFORMATION



Project :

Load tests
Application Performance Diagnostic
Infrastructure Sizing
Performance validation from the end-user's point of view

Industry : Télécommunication

ANFR's missions are to participate in international meetings, to issue authorizations for all frequencies, to check that installations comply with what has been authorized and, lastly, to monitor and validate that public exposure to the level of fields generated by antennas or telephones does not exceed the regulations.

ANFR's CIO implements the agency's digital transformation and launches the SURF project.

As part of its efforts to modernize government services and improve service quality, ANFR deployed a new IT application dedicated to frequency management in 2020. This platform, called SURF (Système unifié de référencement des fréquences), is designed to simplify frequency management within a single database.

Thus, the various players and frequency users have a portal on the anfr.fr site from which they can carry out most frequency-related transactions:

- applications for approval or notice of establishment of radio stations
- applications for registration of subpoenas for their national and international protection
- requests for frequency use authorizations for a professional mobile network assigned by the Arcep.

When the portal opens, there will potentially be 25,000 users of the online application. This new SURF platform replaces the historical form-based system to offer a better service to frequency applicants. To meet these requirements, ANFR has chosen a specialized software package for frequency management (SPECTRA) developed by the specialized company LS Telcom.

As ANFR's CIO explains, «this SPECTRA software package is the equivalent of an ERP for accounting or a CRM for a sales team. The first phase of the project was carried out with the production of the private and mobile network part (PMR) with the objective of having between 90% and 98% of the antennas referenced in SURF's unique database within 2 to 3 years».

«One of the challenges is to ensure that we are as consistent as possible with the reality in the field and as up to date as possible with more than 700,000 listed antennas and 50,000 supports (pylons, roofs, water towers, etc.).

Performance, the first challenge encountered when testing.

When this portal was first opened to ANFR agents, they realized that the performance of the software package needed to be improved. For the opening to the public, they needed to be sure that the response times were good. «It is essential for ANFR to validate the good performance, reliability and quality of service provided to future users before opening the portal to all applicants and licensees in mid-November 2020, to ensure the success and adoption of the service by applicants,» explains ANFR.

Optimize but not at any cost.

It was out of the question for ANFR to add resources and oversize the architecture to achieve the performance objective. ANFR's IT department selected ATAKAMA Technologies to help it with this optimization because the company had the experience, software and references to carry out this type of project, which allowed ANFR to perform load testing on the SPECTRA software package, to diagnose the application's performance, to size the technical infrastructure and, above all, to validate the actual user experience during the test and integration phases (Build).

«This is the interest of the innovative approach of ATAKAMA Technologies with its Performance Engineering Center, which provides expertise with its project team (Performance Consultants, script developers, tool and performance infrastructure administrators, software-expert performance architects) and its POWERHOUSE User Satisfaction Performance software suite to perform performance tests associated with a measurement of the real user experience. This enabled us to validate our infrastructure and the performance of the software package from the end-user's point of view and therefore reassure the business units and general management about the performance delivered,» explains the ANFR CIO.

ATAKAMA Technologies was able to be reactive and flexible during all phases of the project to comply with certain organizational or planning constraints. ANFR wanted the performance tests to be as close as possible to reality. 30 complex business scenarios were defined, which must follow a fixed sequence according to user roles.

The solution proposed by the **ATAKAMA Technologies Performance Engineering Center** has made it possible to carry out precise performance diagnostics with all the necessary information to optimize the application codes and SQL queries, for example. It was also possible to obtain the real user response times in parallel with the load tests in order to determine whether the response times will be in production in accordance with the expectations of the business.



The ANFR carried out 2 performance test campaigns. After the first campaign, optimizations were made in the software package that the second campaign was able to validate. The parallelization of the development of the scripts by 4 ATAKAMA Technologies interveners made it possible to hold the fixed schedule.

ATAKAMA's consultants had well documented the optimizations (SQL queries or web services to be rewritten) that could be implemented by the solution vendor. ATAKAMA's expertise allowed to quickly find the root cause of slowdowns, which components were the weak points and how to solve these performance problems to make the necessary corrections.

«The response times for some heavy transactions could be reduced by a factor of 5, which is a huge gain. This non-intrusive approach is very original and interesting for a quick and efficient root cause analysis.

Applications are becoming more and more complicated due to the number of layers they traverse and when random performance issues arise. Combining performance or load testing with the measurement of the quality of the user experience was the key to the success of this project,» concluded ANFR's CIO.

The POWERHOUSE User Satisfaction Monitoring suite remains deployed in production until the end of the year for the opening of the portal to the public, to measure 24/7 the user experience and monitor the performance seen from the application with the POWERHOUSE Nudge APM component.

The service has to be attractive, and that's the whole purpose and promise of ANFR's digital transformation.