



République et Canton de Genève used Varnish as part of a major website development with Varnish Professional Services support to ensure smooth integration and deployment

Case Study:

République et
Canton de Genève
Canton of Geneva

“The IT environment at the state of Geneva is very complex, and building around and on top of **Varnish** was quite easy. Once we made our decision, it took only about a week to have a functional proof of concept, with which we were very happy.”

--Roberto Lopez, Project Manager, République et Canton de Genève

Background

République et Canton de Genève/Canton of Geneva in Switzerland is the public administration authority operating in the Geneva canton. The Canton of Geneva's Information Systems and Digital directorate provides e-gov and e-services for citizens of Geneva and demands reliability of its highly complex IT structure.

The Challenge: Develop own CDN/cost reduction

République et Canton de Genève was implementing a major website overhaul, and needed to find a solution that would achieve scalability, security and high availability. Varnish API and Web Acceleration could deliver all of these features and more. In addition, given the complexity of Geneva's IT structure and the importance of ensuring the consistency and availability of Geneva's citizen services, Canton of Geneva enlisted Varnish Professional Services to come in and help with setup and testing to ensure that the Varnish integration and deployment went smoothly and quickly.

Like most public sector providers of citizens' services, uptime and scalability is key. During political events and natural disasters, traffic coming into the Canton of Geneva website is particularly demanding, needing to serve thousands of requests per second, making availability and scalability a must.

Canton of Geneva at a glance

Organisation

- Canton of Geneva, the public administration authority overseeing Geneva canton

Challenge

- Complete overhaul of website while ensuring continued smooth e-gov and e-services for citizens
- Support with integration and deployment
- Experience 500K monthly visitors; 1.5 million pages per month. Experience peaks during political events and natural disasters, during which 1000s of requests/second need to be served

Varnish API and Web Acceleration and Varnish Professional Services

- Varnish API and Web Acceleration for scalability, security and high availability for Canton of Geneva's new website
- Professional expertise/support from Varnish core developers with Varnish Professional Services
- 3 Varnish nodes on 3 servers

Before deploying Varnish, République et Canton de Genève faced a few challenges, which Varnish solved:

- Deployment issues when updating the website/visible outages (the Varnish High Availability module handled this completely).
- Bring all the different Canton of Geneva's websites (approximately 500 sites, including, for example, police, tax, immigration departments) together within one website and give them resilience. The République et Canton de Genève site, prior to this update, had not been changed since 2006. In 2015, a new digital strategy was launched, which completely redefined how the website would be used.

The old website setup meant that a visitor seeking services could end up having to go to any number of multiple old websites to find what they needed, which often led to more traffic than necessary and ultimately to visible outages. Streamlining into one, single website could eliminate this roadblock entirely.

The solution

Getting support for streamlining new one-stop public sector citizen e-service site

Right from the start, the new Canton of Geneva's site was built using Drupal and Varnish, bringing all of its e-services together at www.ge.ch. République et Canton de Genève and one of their lead project managers, Roberto Lopez, researched solutions for almost three years to ensure that they would implement the right one. By mid-2017, they were ready to deploy.

Varnish High Availability and Hitch for TLS/SSL were key features in implementation, while the Varnish Configuration Language was highly appreciated for its reverse-proxy logic, flexibility and the ability to create rules when creating new headers.

“We were starting from scratch, taking different departments’ websites, which represented a constellation of servers, needing to migrate and restructure to fit into one, streamlined main website. Varnish has delivered exactly the speed and resilience we needed as well as a cache hit rate of 97% and website availability that has never been under 99.75%.”

-Roberto Lopez, Project Manager, République et Canton de Genève

Results: Implementing Varnish for performance, resilience and insurance policy

For the Canton of Geneva, Varnish performance, resilience, scalability and availability drove the choice to adopt, but to make it work with Geneva’s complex IT structure, they signed on for some extra help with Varnish Professional Services, working with Varnish engineers to ensure that the integration and deployment went smoothly. It was, as Roberto Lopez reported, ready to go in about a week and immediately provided performance gains and almost 100% uptime since launch.

République et Canton de Genève has seen Varnish translate into savings on human resources, as they don’t need to have a specialized team on staff to deal specifically with cache. Instead, they can turn to Varnish Software support for help on day-to-day issues and questions.

Varnish support and Varnish Professional Services

République et Canton de Genève has benefited both from the standard support available with a Varnish solution package subscription and has also used standalone Varnish Professional Services for different aspects of their website launch.

“Varnish itself is a kind of an insurance policy against outages, and Varnish Professional Services is like another kind of insurance policy, making sure that our exact needs were tailored to, our specifications met and tested for and that configuration and implementation would be quick and smooth - helping us meet the goals we set for our website redevelopment and launch.”

-Roberto Lopez, Project Manager, République et Canton de Genève



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