

Societe Generale

Ensuring Business Continuity and Efficiency with Proven DDI, APIs and Automation



Project Objectives

- Prevent loss of service caused by home-grown DNS and IPAM solutions
- Enhance network automation by reducing API latency
- Meet ever-evolving security compliance criteria
- Handle scalability challenges brought from digital transformation
- Boost delivery capability to match DevOps approach

Key Benefits

- Significant operational time savings
- Guaranteed service uptime as misconfigurations eliminated
- Time-to-market reduced with IaC & automation
- Rapid security compliance certification
- Improved resiliency of business apps

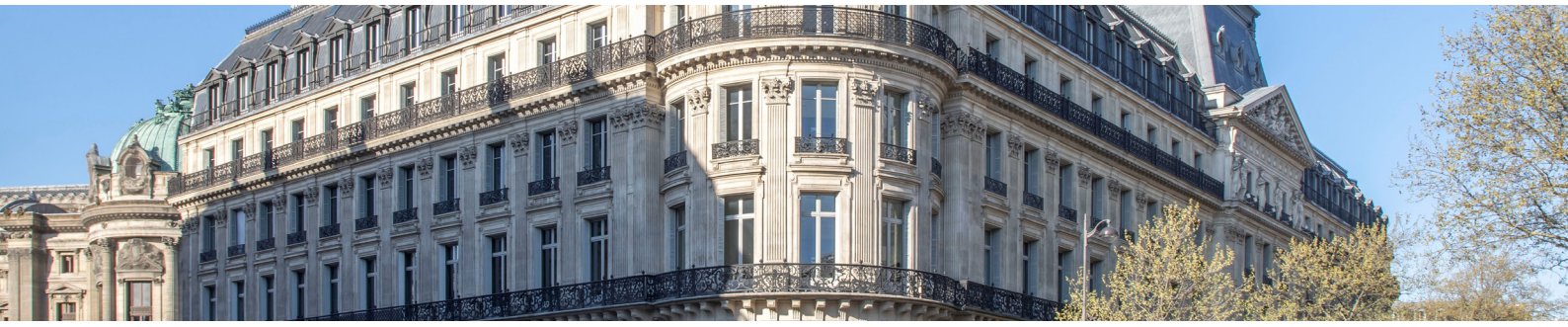
Societe Generale is one of the principal European financial services groups. It is a diversified and integrated bank founded on three complementary core businesses:

1. French Retail Banking
2. International Retail Banking & Financial Services (banking, insurance, operational vehicle leasing and fleet management, vendor equipment finance...)
3. Global Banking & Investor Solutions.

Societe Generale is present in 66 countries, with 131 000 members of staff serving 26 million individual clients, businesses and institutional investors. Being committed to giving customers the means to build their future, Societe Generale offers technological services and solutions with a spirit of constant innovation.

“Implementing the well-proven SOLIDserver DDI solution has simplified DNS management and guaranteed high availability of DNS services to ensure business continuity.”

Olivier Laigle – Deputy Head, Server Operating Systems



Situation and Challenges Being Faced

The Servers Operating System team manages 70K servers (Windows servers, Linux and IBM AIX) in various forms: physical, virtual and private cloud / public cloud. The DDI (DNS-DHCP-IPAM) services also fall under this team. For DNS and IPAM, home-made tools were being used for DNS management and for Subnet referential. For delivering DHCP services, ISC DHCP was used.

The in-house development was proving difficult to maintain: to guarantee performance, production stability, and feature evolution such as security enhancements. Complexity was also being caused by having several DDI infrastructure layers rather than as a whole. And with activity and real-time interactions increasing due to digital transformation, there was a need to handle scalability while boosting delivery capability to cope with the DevOps approach. Lastly, new regulatory compliance requirements concerning critical banking infrastructure (for robustness, resiliency...) were increasing pressure on the team.

Main Impacts of the Challenges

The consequences of having home-made tools for DNS and IPAM included the following:

Low productivity and application resiliency

- Lengthy time for registering high volume of DNS records (deployment of new applications, etc...)
- Could take hours to switch DNS records, thus increasing the MTTR (Mean Time to Repair) and degrading the Recovery Time Objective (RTO) of applications

Service Downtime

- Loss of DNS services (critical for the banking service, has financial impacts) of up to 1 hour caused by human errors or bugs on the home-made tool

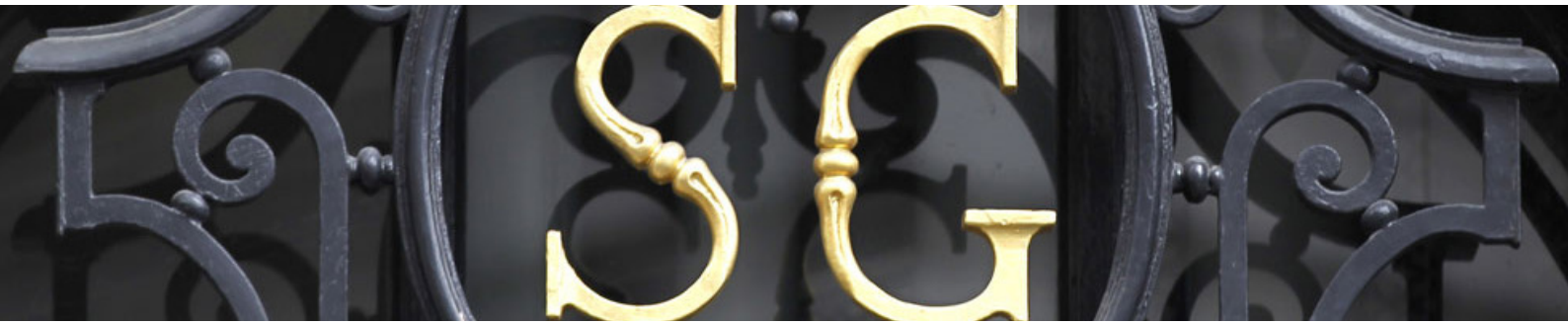
Slow TTM / Increasing workload due to lack of automation

- Despite the API approach already set, it was hard to quickly develop new features. Time-To-Market (TTM) for delivering new features was long
- It was difficult to qualify the new releases in terms of impact, lack of non-regression tests
- DNS experts had to continuously develop their skills, impacting strategic workforce planning

Expansion Difficulty

- Handling new requests was not possible (e.g. DNS wildcards)

Impacts on the business caused by outages was the starting point of the DDI revamping project. A second driver was the refresh of Societe Generale's private cloud infrastructure and associated services, developed with an API approach to enable moving towards IaC and CI/CD for application development. After studying, Societe Generale decided to incorporate a DDI solution from a true specialist vendor.



Solution Implemented

As part of their DNS transformation project, Societe Generale created an abstraction layer to allow, for instance, the apps team to create their own accounts and manage their own DNS records.

Then, an RFP was created to evaluate the main DDI vendors. After product investigation and tests, EfficientIP SOLIDserver DDI was selected as it met Societe Generale's financial and technical requirements, which included:

- 1. Secure Production:** According to Olivier Laigle (Deputy Head, Server Operating Systems), *"implementing the well-proven SOLIDserver DDI solution has simplified DNS management and guaranteed high availability of DNS services to ensure business continuity. The resulting robustness and resilience patterns have improved infrastructure maintenance and operations."*
- 2. Improve Agility:** Easily integrated into Societe Generale IS ecosystem to deliver IaC capability, enabling a CI/CD approach for Societe Generale applications. SOLIDserver DDI offered autonomy to developers for reducing time-to-market, while guaranteeing access control and security. App developers could manage their DNS records with true access control, and the account model eliminates dependency on the DNS team.

3. Enable Automation: Due to the reinforcement of Cloud usage and more and more API requests, it was key for Societe Generale to go with a solution which could guarantee high performances and scalability. API calls could be handled with good speed and without errors. Olivier Laigle confirmed that *"with SOLIDserver DDI, critical Societe Generale apps can now be switched in 10 minutes with API and script, instead of 2 hours with a manual GUI."*

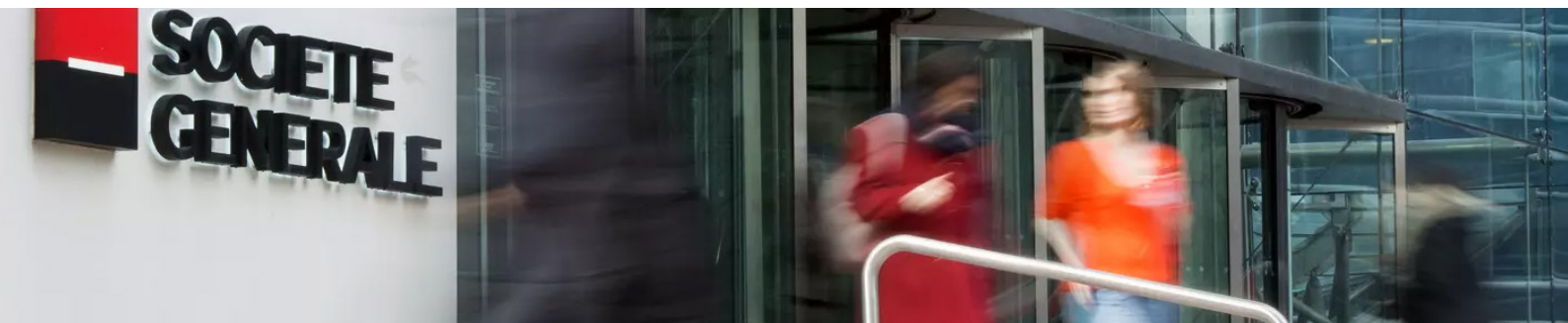
4. Security Compliance: With expectations from regulators increasing, a solution was required to help answer challenges in terms of security, control, and data visibility. Works are ongoing to leverage the infrastructure deployed thanks to EfficientIP analytics capacity.

5. Simplify Infrastructure: Unifying IPAM, DNS and DHCP services in a unique tool has decreased infrastructure complexity and technical processes between those three services. This assures consistency control of IP allocations, DNS and DHCP server configurations.

To increase technology knowledge and to benefit from EfficientIP's vision and experience on topics like security use cases, the training and consultancy services offered were beneficial. In addition, every product support received was perceived as very good, with high expertise from staff and a good level of involvement.

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Main Results

Societe Generale's new DDI infrastructure is now ready for the incoming challenge introduced by the cloud approach and cybersecurity aspects.

They now have just one unique entry point for DNS provisioning and the clustering capability offered by SOLIDserver has led to a reduction in the number of DNS servers, which are in addition more robust. The consequent time savings brought for expert users is estimated to be between 30% and 40%. This is on top of the time saved by the reduced number of tickets.

The solution has allowed Societe Generale to do things which were not possible before, such as transparent maintenance. Also, interfacing with all the SG Cloud platform APIs is now a possibility, enabling "self-service" DNS provisioning and a CI/CD approach.

All this setup is deployed thanks to EfficientIP APIs, which have now made API calls far more stable, with close to zero errors. Olivier Laigle stated that *"the new APIs response time is 5 times quicker than the one provided by our previous solution, while the DNS propagation time is now 10 times faster. This has permitted the RTO for critical applications to be significantly decreased: from 2 hours to less than 1 minute."*

On the security side, EfficientIP "secure-by-design" solution helped ensure that compliance certification was obtained rapidly.

Conclusions / Future Plans

As Societe Generale has a multi-Cloud strategy they will study to scope the EfficientIP solution with this approach.

With regards to security, Societe Generale will reinforce security use cases by increasing the security monitoring surface for the Societe Generale SOC.

As the EfficientIP DDI (DNS-DHCP-IPAM) solution is now confirmed as a global Societe Generale standard, the goal is to extend this standard to other Societe Generale entities. Sharing of expertise and global support will help guarantee operational excellence.



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As one of the world's fastest growing DDI vendors, EfficientIP helps organizations drive business efficiency through agile, secure and reliable network infrastructures. Our unified management framework for DNS-DHCP-IPAM (DDI) and network configurations ensures end-to-end visibility, consistency control and advanced automation. Additionally, our unique 360° DNS security solution protects data confidentiality and application access from anywhere at any time. Companies rely on us to help control the risks and reduce the complexity of challenges they face with modern key IT initiatives such as cloud applications, virtualization, and mobility. Institutions across a variety of industries and government sectors worldwide rely on our offerings to assure business continuity, reduce operating costs and increase the management efficiency of their network and security teams. Copyright © 2023 EfficientIP, SAS. All rights reserved. EfficientIP and SOLIDserver logo are trademarks or registered trademarks of EfficientIP SAS. All registered trademarks are property of their respective owners. EfficientIP assumes no responsibility for any inaccuracies in this document or for any obligation to update information in this document.