Migration of Obsolete RHEL Systems and Modernization of the Linux Red Hat OS Lifecycle

Safran Electrical & Power
opts for a new approach with Inetum

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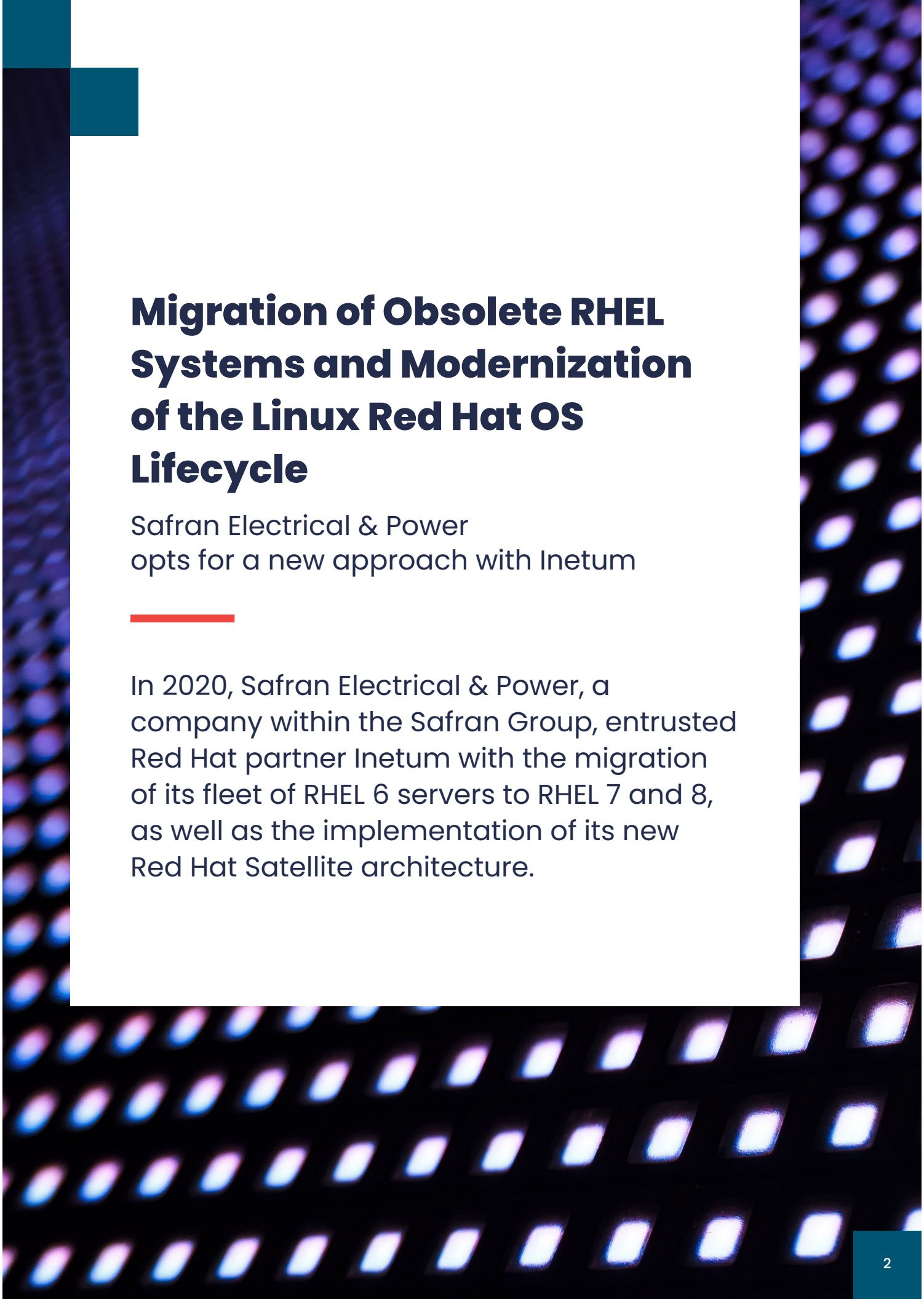

Migration of Obsolete RHEL Systems and Modernization of the Linux Red Hat OS Lifecycle

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In 2020, Safran Electrical & Power, a company within the Safran Group, entrusted Red Hat partner Inetum with the migration of its fleet of RHEL 6 servers to RHEL 7 and 8, as well as the implementation of its new Red Hat Satellite architecture.

The Situation

Safran Electrical & Power needed to address the upcoming end of life of its servers installed under a Linux Red Hat 6 distribution. To do so, Safran Electrical & Power launched an “RHEL 6 Red Hat obsolescence” project for its fleet of Red Hat servers, consisting of about 140 RHEL 6 machines distributed over 4 continents and 16 geographical sites.

The project consisted in migrating all its RHEL 6 machines to RHEL 7 or even 8, with zero loss of service, or isolating the machines where there was a software incompatibility.

Since all the Red Hat servers were managed through a Red Hat Satellite infrastructure, which is now obsolete, it was also necessary to upgrade this infrastructure to an updated, supported version, which would allow operation of all the Red Hat servers.

Safran Electrical & Power wanted to delegate the entire project to a trusted partner who would be responsible for both defining the technical architecture and implementing it, as well as acting as project manager for the entire scope of the project by interacting with the various stakeholders in its ecosystem.

140
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4
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The Solution

To meet the needs of Safran Electrical & Power, Inetum supported the company's staff members working in IT and other business units for the duration of an entire year, keeping in mind the complications caused by the pandemic.

To ensure the project's success, Inetum set up a team of three people who were entirely dedicated to the project: a technical project manager, a technical expert and a systems engineer. The migration solution was divided into three main stages:

1 Project definition and method of migration:

This first stage consisted of a study of the existing technical environment, as well as conducting interviews and workshops—both technical and methodological—on specific topics. Various methods of server migration were then defined, taking into account their type, complexity, and the operational limitations they involved. To establish the operational procedures through which the migration would take place, migration unit tests were carried out in a sandbox environment. The information collected was then consolidated to establish the roadmap for migrating all the servers.

2 Red Hat Satellite infrastructure migration:

Following this first stage, the technical and functional specifications and the target architecture were then closely examined. The new architecture was put into production for the entire scope, supported by user acceptance testing, and lifecycle management of the Red Hat operating systems was defined in order to keep them updated through Red Hat Satellite.

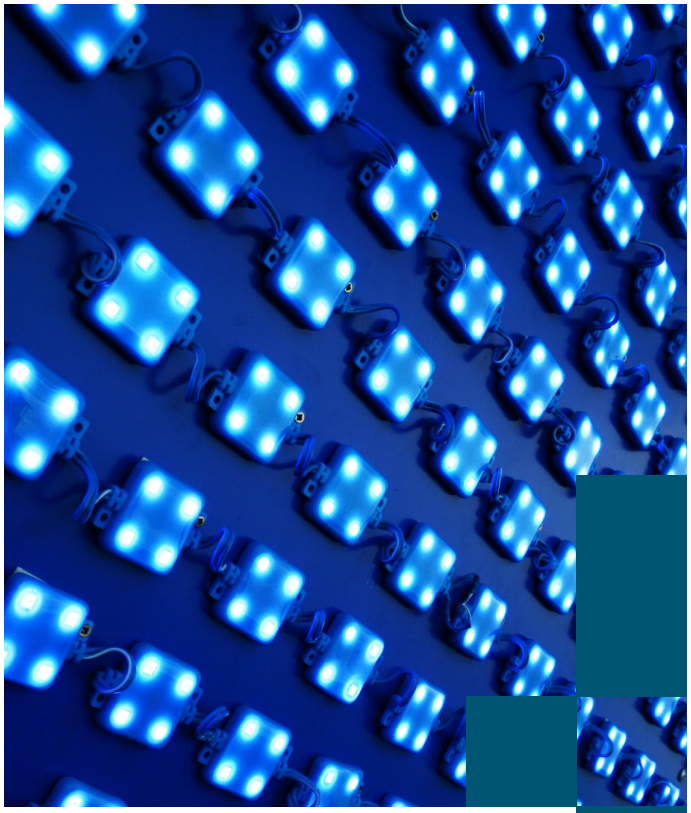
Lastly, skills were transferred to the teams responsible for operating the infrastructure.

3 Server unit migration supported by the facilities manager:

The third stage involved implementing change management (including updating of the CMDB) and the associated communications with the various business units in order to ensure impact control and service continuity. This was followed by migration of the servers, which took place in line with the methodology approved by the teams responsible for operating the servers.

In fact, it was possible to carry out the stages dedicated to project definition and Red Hat Satellite infrastructure migration in parallel with each other to optimize the work schedule.

In addition to Linux Red Hat and Red Hat Satellite, Inetum used the Ansible and AWX Ansible Tower solutions to automate the maximum number of technical tasks and thereby facilitate server migration and then operation by the facilities manager.



The Results

The project took place over the course of a year, keeping in mind that it was necessary to adapt the schedule due to the COVID-19 pandemic. The initial goals of the project were successfully achieved within the time frames, which were connected to the end of maintenance support. Today, Safran Electrical & Power has a fleet of updated Linux Red Hat systems, supported by efficient operation and maintenance tools through Red Hat Satellite. This project allows us to identify the keys to success:

Observation:

Identify the right people with whom to speak in the customer's ecosystem in order to help establish the roadmap for migration, change management, and the work schedule, depending on the availability of the people involved on the customer's side

Take the customer's structure into consideration, particularly in an international context with stakeholders in different countries, spread across different time zones (Asia, Europe, Africa, the Americas)

Integrate the customer's existing processes and workflows for processing requests for services

Definition:

Define the technical prerequisites at the start of the project, particularly in order to anticipate the requirements relating to prerequisites for the system, network, and dataflows

Specify the formalities, content, and level of detail of the deliverables, particularly for the operational teams so as to facilitate the process of approving them

Put in place the right sources of technical information to prevent sticking points

Support:

Run technical or methodological workshops with stakeholders to approve the approaches taken for the project and its various deliverables

Take into account the communication component and the capacity for understanding among the various contact persons (language and cultural barriers, different levels of experience and technical skills). Prioritizing spoken discussions, by phone or video conference, increases understanding. Writing up action points and shared decision-making in the form of reports is also recommended.

Regularly follow up on action points and maintain close contact for successful control of activities and change management

A word from the expert

Valentin Sainte-Foie
Expert TechniTechnical Expert, Inetum

The project didn't present any major technical difficulties, since Red Hat solutions are flexible and robust. The main focus was on getting a good grasp of the customer's structure and ecosystem, allowing us to make gains in efficiency and ensure fluid discussions among the various contributors. This kind of project executed on an international scale is very rewarding, both on a technical level and for the people it affects.

A word from the customer

Gilles Barret
IT, Engineering and Industry Service Center Manager

What was the outcome of this project for you?

The outcome was very positive. Despite the difficult circumstances, the project execution achieved all its goals and stayed within the planned timescales and costs, with operational impacts for our business units kept to a minimum.

What were the main difficulties you faced?

The pandemic certainly affected the ability to carry out work in person, requiring the implementation of specific means of access for our partner Inetum, as well as forcing us to juggle this with the process of adaptation of our IT and business unit resources, who were working from home. The sequencing and scheduling of operations had to be adapted almost daily to changes in the day-to-day activities of the people involved and their other workloads.

Naturally, the impact of time zones on preparatory meetings, tests, and the technical operations themselves was another complicating factor, but we were aware of this before the project launched.

How did Inetum respond to the requirements of the project?

It was the first time the IT department at Safran Electrical & Power had ever appointed a partner on a fixed-price basis to manage the entirety of a technical project whose execution involved the partner's staff, our own internal employees, and a facilities manager, so this was another challenge.

It required some adjustments on both sides during the launch phase and Inetum responded positively to our expectations in this regard.

In the unusual circumstances we experienced together, the flexibility, competence, and commitment of the staff at Inetum, both on the technical side and in terms of project management, were key to this success.

SAFRAN

About Inetum, Positive digital flow:

Inetum is an agile IT services company that provides digital services and solutions, and a global group that helps companies and institutions to get the most out of digital flow. In a context of perpetual movement, where needs and usages are constantly being reinvented, the Inetum Group is committed toward all these players to innovate, continue to adapt, and stay ahead. With its multi-expert profile, Inetum offers its clients a unique combination of proximity, a sectorial organization, and solutions of industrial quality. Operating in more than 26 countries, the group has nearly 27,000 employees and in 2020 generated revenues of €1.966 billion.

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