Meter-Centric to Customer-Centric: Madrileña Red de Gas' Cloud Transformation

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EXECUTIVE SNAPSHOT

FIGURE 1

Executive Snapshot: Meter-Centric to Customer-Centric — Madrileña Red de Gas' Cloud Transformation

This IDC Perspective focuses on Spanish gas distributor Madrileña Red de Gas (MRG) and the successful cloud transformation it carried out as part of a wider strategy to become more efficient and customer centric. It highlights the major steps of this journey and analyzes the benefits of the new IT architecture in terms of performance, flexibility, and digital transformation (DX) enablement.

Key Takeaways

- In 2018, MRG realized its ambition to become a customer-centric, digital gas operator had outpaced its outsourced IT model. The company wanted more control over its IT and needed more performing, available systems, a more flexible infrastructure, and more agile and efficient customer-facing processes.
- With the end of its hosting contract fast approaching, MRG partnered with AWS and Linke, an AWS Premier Consulting Partner and SAP Gold Partner, to migrate more than 50 applications — including its entire SAP landscape — to the cloud in less than 100 days and later deployed the Amazon Connect cloud call center in just six weeks.
- The new architecture ticked all the boxes in terms of control, performance, cost and agility and helped MRG greatly accelerate its plans to transform and digitize customer experience (CX).

Recommended Actions

- **Put the customer at the center of every transformation.** The responsibility of a distribution system operator (DSO) no longer stops at the meter. MRG's program is a testament to how regulated infrastructure operators are changing the way they think about the service they provide and their institutional role.
- **Regardless of size or business model, cloud is a must to enable DX.** MRG's experience proves that cloud is a sensible choice for companies with regulated revenue models. By making it easier to access managed technology services, cloud also greatly lowers the barrier to innovation for small technology teams.
- **Maximize opportunities.** MRG shows that cloud transformation is not just about IT. Lines of business (LOBs) must not only be consulted but must also actively participate to understand the implications and provide feedback on desired enhancements. Coupled with agile, LOB involvement can help deliver complex projects against challenging timelines.

Source: IDC, 2020

SITUATION OVERVIEW

This IDC Perspective focuses on Spanish gas DSO Madrileña Red de Gas and the successful cloud transformation it carried out as part of a wider strategy to become more efficient and customer centric. IDC interviewed MRG's Head of Information Systems, Business Processes, and Customer Experience Hector Moran on the major steps of this journey, which involved shifting the company's core IT systems onto an infrastructure-as-a-service (IaaS) platform and substituting its outsourced call center with a cloud-native solution. This report analyzes the benefits MRG derived from the new IT architecture in terms of performance, flexibility, and DX enablement.

IDC Energy Insights' Case Studies Series

IDC Energy Insights' case studies series provides utilities with fact-based and independent views on interesting projects implemented across the world. They focus on new business models, DX initiatives, IT and operational technology (OT) solutions implementations, and, more broadly, energy technology initiatives that contribute to innovation and sustainability. Collaborating with utility companies and technology providers personnel directly involved in such projects, IDC Energy Insights analysts gather all relevant information and analyze the approaches taken and the solutions' performance in meeting stated goals.

A Gas Distributor with a Drive for Service Excellence

MRG is a natural gas distributor and liquefied petroleum gas (LPG) supplier serving 61 municipalities in the Community of Madrid. It was born in 2010 when integrated utility Naturgy (then called Gas Natural) divested some of its gas distribution assets as a condition of its takeover of Unión Fenosa. In 2019, the company was Spain's third-largest gas DSO, delivering 10,124GWh of natural gas and LPG to more than 908,500 delivery points across more than 5,820km of network.

As a regulated infrastructure operator, MRG's business focuses on the safe and efficient development of its natural gas distribution activities. This includes expanding natural gas usage within its network service area by connecting new buildings and supporting the thermal load conversion of existing ones from diesel or coal. It also involves extending the network to unserved municipalities in the region, promoting natural gas-powered mobility and converting piped LPG delivery points to natural gas. These include about 23,000 points MRG acquired from Repsol in 2016, for which it acts as a full supplier that distributes and sells LPG to the final consumer. MRG is also committed to supporting Spain's energy transition by contributing to R&D and regulatory design efforts around alternative energy sources such as biogas and synthetic natural gas.

From a business operations perspective, MRG has progressively increased focus on process efficiency and customer service excellence. In 2018, the company developed a vision to transform its traditionally "meter-centric" business to a more customer-centric one. At the core of this vision is MRG's plan to transform and digitize CX by leveraging new value-added services, digital channels and automation to bring it closer to end users and serve them efficiently.

A Platform to Regain Control of IT and Digitally Transform

Leaving "Vanilla" Outsourcing Behind

When it launched, MRG adopted an outsourced IT model, with a small internal team responsible for innovation and governance supported by local outsourcers managing its IT infrastructure and some of its business processes (such as the call center). This arrangement had served MRG well in its early years. However, the company's ambition to become a customer-centric, digital gas operator was quickly outpacing its legacy IT model. Rather than being an enabler for MRG's new strategy, technology was slowing it down, particularly when it came to:

- **Availability and speed of core applications.** Its older infrastructure prevented MRG from meeting the quality standards it was targeting. The company's application portfolio had almost doubled since 2010 and its data assets had grown several times over, showing the limits of the physical infrastructure they ran on. Limitations were particularly evident with computing-intensive workloads (such as tariff recalculations and gas balancing accounting) and core SAP applications such as SAP IS-U, BusinessObjects, and ERP.
- **Flexibility and scalability of IT infrastructure.** The company had no way to actively manage its storage infrastructure or computing power to meet peak workloads, often with cascading impacts on business processes. Similarly, it had no way to reduce cost by using resources more efficiently because of the rigidity of its hosting arrangement. Expanding beyond the boundaries of this contract was expensive and time consuming.
- **Agility to respond to business needs.** Deploying the necessary infrastructure for a proof of concept could take weeks. This defeated any attempt at responding rapidly to emerging business needs and made it impossible to work with the agile methodologies that the company was eager to adopt.
- **Efficiency and customer centricity.** The old infrastructure's shortcomings also became evident in critical front-office process such as the call center, where the classic outsourcing model created excessive dependence on a single supplier. MRG had no control of the technology layer. The supplier had little incentive to automate processes or offer a more flexible service model. Slow reporting limited performance visibility. This meant MRG had very little control over the CX it provided and its cost.

Facing all this, MRG realized a public cloud transformation was going to be a necessary first step toward regaining control of its IT estate – reducing complexity and cost while improving performance – and deploying a platform to reinvent and digitally transform. According to Moran, "Technology was becoming a showstopper. We needed availability for quality assurance, scalability for growth, agility for new business needs, rapidity to enable agile, and a pay-as-you-go model."

Partnering at the Intersection of Public Cloud and SAP

In mid-2018, MRG kicked off its partner selection, issuing a single tender for cloud and migration services. Given the relatively small size of its IT team, one of MRG's main objectives was to be able to migrate and run its core SAP workloads on the cloud with a minimum set of key partners.

After evaluating the major cloud players, MRG turned to cloud service provider AWS, which offered the desired scale, pay-per-use model, and business microservices. AWS also had a long track record of hosting SAP workloads, comprehensive SAP certifications and testing, and several "SAP on AWS" references, including among European utilities. The same rationale led MRG to select cloud service provider Linke as its AWS consulting partner; the company has certified SAP and migration competencies as well as experience in moving large SAP environments to AWS.

100 Days to Leap into the Cloud

With its datacenter hosting contract expiring at the end of 2018, time was short for MRG. This made lifting and shifting its core IT systems onto an IaaS platform the only realistic migration approach. The endeavor was further challenged with the project kicking off at the end of August, giving MRG only four months.

MRG replatformed its critical SAP systems from Windows to Linux and transformed some non-SAP applications to improve performance and availability. For this, it used managed services such as Amazon RDS, Amazon WorkSpaces, and AWS Elastic Beanstalk to deploy managed databases, desktops, and web apps, respectively. This design and the agile delivery model ensured 90% of the production systems were live in the cloud within two months and system stabilization could be

completed by year-end. By the end of the project, MRG had migrated more than 50 applications to the cloud in less than 100 days – half the time a project of this scale would normally require – with virtually no impact on the business. In fact, immediately after the migration, MRG's business experienced a boost in systems performance, especially with SAP applications, which used to cause trouble in the previous hosted private cloud model.

At the end of 2018, MRG became the first utility in Iberia to go cloud-only on AWS. As of writing, as shown in Figure 2, 90% of its IT landscape is on public cloud.

FIGURE 2

MRG's IT Architecture: A High-Level View
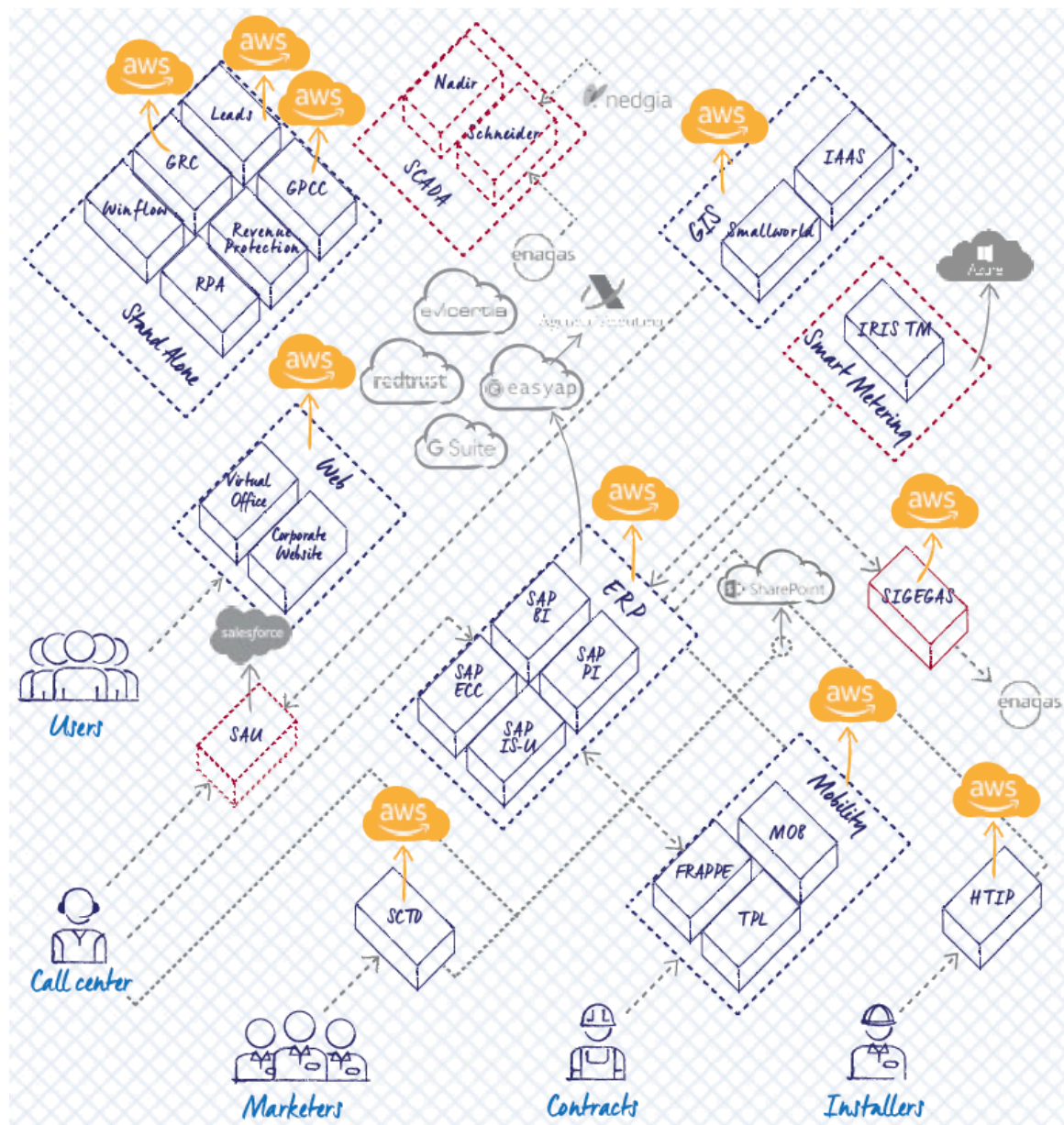
Source: Madrileña Red de Gas, 2020

Better Tools for the Contact Center

Once it transformed its IT infrastructure, MRG started exploring the opportunities offered by the cloud to transform some of its core customer-facing processes. So, a year later, when the company needed to set up its own contact center, software as a service (SaaS) was the logical choice. This would give the company long-sought control over the technology and reporting and help it deliver a better multichannel experience at a lower price point than with the previous model.

Out of a shortlist of four cloud contact center solutions, MRG picked Amazon Connect, proposed once again by Linke. Amazon Connect was a relatively new solution at the time, with just a couple of references in the Iberian market. The initial benefits experienced by MRG with its newly migrated SAP environment certainly played a role in this decision, as did the partners' alignment with the company's vision for DX. The most significant driver, however, was the solution's departure from what the market offered in terms of agility and flexibility – the very principles that led MRG to adopt a cloud-only model. Among others, this solution offered:

- **Intuitive configuration and agent onboarding tools.** These tools support rapid deployment and the ability to scale out using automation, consistent with MRG's objective of reducing call volumes and opening new digital service channels.
- **A flexible, pay-per-minute pricing model.** This helps MRG cope with call volumes seasonality (competing vendors only offered license-based pricing arrangements). The company had a 60-agent strong call center handling around 400,000 calls a year with wide variations between the colder and warmer months of the year.

Turning from Outsourced to Cloud-Native on a Dime

The contact center project was equally quick, despite it being the first production project of its kind for Linke. Starting at the end of February 2020, the team was able to deploy the solution, implement the necessary processes, perform the testing, and train users in just six weeks. This was possible thanks to MRG's solid planning work ahead of the transition, which included preparing clear requirements around interactive voice response (IVR) automations and pre-developing the necessary system interfaces.

In addition to the core Amazon Connect service, which provides the entire telephony stack and basic reporting, MRG used Amazon's Polly text-to-speech service to configure and deploy IVR automations. This included 10 initial flows that enable customers to submit a meter read, change the appointment for a periodic gas inspection, or pay an LPG bill directly on the phone or by being redirected to an alternate self-service channel – all without ever talking to a human agent.

By April 2020, MRG was able to start using the solution with the first contact center teams. Once again, the transition had virtually no impact on business operations. In fact, it quickly provided the first results in terms of better customer reviews. For advanced reporting, MRG later adopted Amazon QuickSight, which offers more complex, personalized self-service analytics capabilities. This service was also implemented very quickly by the project team.

Path to Value and Lessons Learned

A More Performing Engine for MRG's Business

MRG has already extracted significant value from its shift to cloud. Not only has the company seen the cost and performance of its core IT systems improve significantly; it has also found it much easier to automate and control processes while gaining the flexibility needed to cope with some of the contingent challenges posed by COVID-19. MRG observed improvements in terms of:

- **Cost and availability.** The ability to scale resources according to business needs means MRG's IT landscape costs around 10% less to run than in the previous hosted private

cloud model, on a like-for-like basis. Discounts on reserved instances and other cost management tools helped MRG beat the conventional wisdom that public cloud costs can escalate quickly if left unchecked, making IaaS more expensive than a well-managed datacenter. This adds to close to 100% availability of business-critical applications thanks to the redundant design, which in turn enabled MRG to transition its IT service-level agreements (SLAs) to an "IT plus customer" model, adding CX metrics to more traditional ones such as availability or uptime.

- **Performance and scalability.** MRG is experiencing much better system responsiveness thanks to the transformation. This is especially true of SAP applications, from which the company is observing faster execution times for both transactions and batch processes. Accessing customer data, certifying orders, or listing suppliers is now 50% quicker on average compared with the previous architecture. Database storage autoscaling and the ability to deploy environments in less than a quarter of the time were some of the benefits cited by MRG in terms of infrastructure scalability.

- **Accessibility and rapid deployment.** This is where MRG experienced the most immediate benefits from the new cloud call center. Easy access to the service, quick process establishment and training across SAP, and utility-specific processes made agent onboarding much faster than in the past. This was a true enabler, considering that MRG was moving to a new service provider and would lose the expertise of the previous one. The work-from-anywhere model enabled by cloud also meant MRG could go live with the new provider during a complete COVID-19 lockdown and scale out to cope with three times the normal call volumes for that period of the year.

- **Easy automation and control.** MRG found that the Amazon Connect solution was easy to automate and control. MRG was able to set up IVR flows quickly and can now customize them almost instantly – something that required a full day or more in the outsourced model. The combination of native call center reporting and advanced analytics enabled MRG to monitor and improve processes and compare the performance of its now three service providers, optimizing workloads between them as a result.

A CX Transformation Accelerator

MRG realized its new IT architecture was the perfect vehicle to accelerate the transformation and digitization of CX. In early-2019, the company launched the DARwin Project, a program designed to evolve the company's culture, systems, and processes in line with its ambition to become a customer-centric, digital gas operator. Projects carried out so far under the DARwin project and the benefits achieved by MRG include:

- **A redesigned website and customer service portal.** The new portal offers more contextual information and greatly expanded self-service functionality. Since launch, 6,000 customers have registered to the portal each month on average, helping MRG reduce call volumes by an estimated 37% in 2019 alone. The portal also features chatbots for customer self-help, which helped MRG resolve 95% of all inquiries received on the portal within the same day in 2019 (with an objective of 100% for 2020).

- **Multichannel capabilities.** In addition to the call center, MRG's customers can now get in touch via email, SMS, and instant messaging. MRG was the first DSO in Spain to offer a WhatsApp option, which was particularly well received by customers and offered the company a great opportunity to automate interactions. Around 60% of current inquiries received through this channel receive automated responses.

- **More convenient meter reading submission options.** MRG is using computer vision and optical character reading to enable customers, technicians, and meter-reading teams to submit readings through digital channels (including WhatsApp) by simply sending a picture of their meters. This helped double customer meter read submissions and reduced the number of meters without a valid annual reading from 6.5% to 4.5% in 2019.

- **A customer onboarding portal.** This dedicated portal supports contracting and activating new supply points through a guided procedure. It supported 20% of MRG's annual gross supply point growth in the first four months of operation.
- **Robotic automation.** A growing number of back-office tasks are being automated, impacting cost and CX around processes such as periodic inspections, meter readings, billing and billing exceptions, tariff change, and revenue assurance. MRG has successfully automated 100% of network fee recalculation requests when a new meter reading is provided, 50% of network access contract creations, and 20% of new supply point activations.
- **Development of an "expanded company."** This includes a new partner portal enabling better customer service orchestration with gas installers and direct automatic referral of customer inquiries to energy retailers whenever applicable. This adds to an integrated process for mandatory periodic gas inspections featuring multichannel notifications, which helped MRG and its partners achieve a 99.6% success rate for booked appointments in 2019. The company also launched an application called Enerty, helping customers and partner installers digitize the technical documentation and certifications for gas installations.

A Journey to the Cloud with the Right Mindset

Migrating to cloud often involves challenges and is never a matter for IT alone. It requires the right mix of people, focus, and time. As is often the case, the most critical success factor in MRG's program was the involvement of the LOB as a full team member along with IT from the outset. MRG's LOB was instrumental in identifying the most critical processes to prioritize and validating the application transformation and enhancement work being done. The team's ability to work agile was key to enabling MRG to complete its IaaS migration in less than three months, ensuring continuous monitoring of activities and stakeholder involvement from every function.

Another key factor was MRG's willingness to adopt a solution that was new to the Spanish market such as Amazon Connect. This posed a risk but helped the company gain a competitive edge and garner the full support of AWS as a launch customer.

There were challenges as well. For one, time was in short supply: a more comfortable timeline would have enabled MRG to better plan and design the IaaS transition, taking advantage of the migration to re-architect more applications. Similar reasoning goes with call center reporting, a critical capability for MRG that could have been defined better ahead of schedule.

Hungry for More

Appetite comes with eating – they say, and MRG is hungry for more. On one hand, MRG is continuing to transform its legacy applications portfolio (including some business- and mission-critical systems) to cloud-native applications. On the other, it is looking to leverage cloud analytics and machine understanding and learning services to provide even more relevant and timely information to its customers, while making it more convenient for them to get in touch.

Some of the projects MRG's IT team is working on include adding a conversational technology layer to voice and text channels to further automate customer interactions using natural language and intelligent agents. The team is also deploying big data analytics to make the most of its cloud contact center data to interpret and anticipate customer needs. According to Moran, "Our vision is to continue to improve the quality of the service we provide and anticipate our customers' needs. Whether it is making sure our network is safe or more convenient for our customers to deal with us, cloud-delivered technologies will be a key enabler of this vision."

ADVICE FOR THE TECHNOLOGY BUYER

Given its transformative nature and strategic scope, any utility approaching a similar program should consider the following:

- **Put the customer at the center of every transformation.** A distribution system operator's responsibility no longer stops at the meter. MRG's program is a testament of how regulated infrastructure operators are changing the way they think about the service they provide and their institutional role. This is the right mindset for transformation and innovation, irrespective of where your company sits in the energy value chain.

- **Cloud is the must go-to DX enabler**, irrespective of size or business model. MRG's experience proves that cloud is a sensible choice even for companies with a regulated revenue model. And crucially, by making it easier to access managed technology services, it greatly lowers the barrier to innovation for small technology teams.

- **Maximize your opportunities.** MRG has shown that a cloud transformation is not just about IT. The LOB must be consulted and must also actively participate to understand the implications and provide feedback on desired enhancements. Coupled with agile work, this functional alignment can help deliver complex projects against the most challenging timelines. Similarly, an IaaS migration is not just about infrastructure. It should be used as an opportunity to modernize or re-architect certain applications to extend their lifetimes.

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Related Research

- *EMEA Utilities Industry Quarterly Update: July-September 2020* (IDC #EUR145815820, October 2020)
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- *Energy Consumer Discovery Series: Interactions and Communication Channels (Part 2)* (IDC #EUR146883220, September 2020)
- *What Have Utilities Been Focusing on During the COVID-19 Crisis and What Are Their Medium-Term Plans?* (IDC #EUR146521020, June 2020)
- *The What and Why of Intelligent Process Automation in Utilities* (IDC #EUR146118720, March 2020)

Synopsis

This IDC Perspective focuses on Spanish gas distribution system operator Madrileña Red de Gas and the successful cloud transformation it carried out as part of a wider strategy to become more efficient and customer centric. It highlights the major steps of this journey, which involved shifting the company's core IT systems onto an IaaS platform and substituting its outsourced call center with a cloud-native solution. It also analyzes the benefits MRG derived from the new IT architecture in terms of performance, flexibility, and digital transformation enablement.

"Aside from being very efficient at managing their networks, European energy distributors are becoming more customer focused and digital," said Jean-François Segalotto, associate research director, IDC Energy Insights. "Madrileña Red de Gas is a great example of this transition, showing how the right IT architecture can do wonders for business innovation."

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