



Best Regulator Project of the Year

Cloud as SupTech Enabler

To leverage the benefits of the cloud,
you do not need to move there completely





The Cloud as SupTech Enabler

Since the turn of the millennium, the financial sector has grown increasingly complex and increasingly less transparent, with global trends such as the emergence of cryptocurrencies, novel payment providers and other financial innovations. Associated with this development are growing systemic risks, e.g., bubbles such as the subprime mortgage crisis that triggered the Great Recession of 2008. The Covid-19 pandemic has further exposed the necessity to obtain targeted market insights on short notice due to unforeseen external shocks. Considering this, regulators have identified shortcomings in regulatory reporting data with respect to data coverage, quality, timeliness and granularity prohibiting informed decisions. In order to alleviate these shortcomings, regulatory reporting requirements have increased tremendously in recent years and will continue to increase further in the future, especially with regard to data granularity and reporting frequency. In this context, regulators are looking for future-proof software solutions to cope with this development and to advance to the third generation of SupTech as defined by the BIS¹.

The evolving regulatory reporting requirements are leading to an increase of data volumes and associated processing workloads and for software solutions to the necessity of higher levels of availability as well as shorter update cycles for the regulatory logic. Side effects of this development are growing IT maintenance and management efforts by regulators. Similar issues are encountered in the area of data management across industries, from automotive to health care. Often, harnessing the power of the cloud has been key to tackle these issues. We are convinced that adoption of the cloud is a most promising way forward also for regulators around the globe. With cloud-native software solutions, such as our new generation of Abacus Regulator², we are ready to embark on a collaborative cloud journey with regulators, taking into consideration concerns about data and operations sovereignty with our innovative “Metadata Cloud” (MC) approach.

¹ Simone di Castri, Stefan Hohl, Arend Kulenkampff, and Jermy Prenio, “The suptech generations”, FSI Insights, No 19, 17 October 2019, <https://www.bis.org/fsi/publ/insights19.htm>.

² While our new generation of Abacus Regulator is cloud-native, it can still be deployed on-premises.

Why Opt for the Cloud?

Scalability and Elasticity & Hardware and Storage

Across industry boundaries, the cloud is particularly valued for its technical advantages.

Legacy software solutions which are still in widespread use with regulators are typically unable to scale with the aforementioned increasing workloads and data volumes leading to unacceptable processing times or outright failure which often cannot be remedied due to outdated system architectures. By contrast, modern, cloud-native software solutions designed with the principles of distributed computing in mind are able to scale in an elastic fashion as needed. They can be deployed both in the cloud and on-premises. To unleash the full potential of cloud-native software solutions, deployment in the cloud however is indispensable.

On-premises deployment requires adequate hardware with respect to computational prowess and storage. Here, the allocated hardware resources are typically informed by the expected workloads and data volumes at the time of introduction and usually cannot be altered on short notice, limiting the so-called “elasticity” of the deployment. With a conservative estimate, computational resources might turn out being sufficient to tackle growing workloads even in the long term, at the price of excessive initial cost of procurement. Furthermore, as peak loads are usually tied to periodic reporting dates, with such hardware configurations, the system is idle most of the time. By contrast, with a liberal estimate computational resources might turn out being insufficient to tackle growing workloads already in the medium term leading again to unacceptable processing times. Upgrades to computational resources, in such cases, typically cannot be realized on short notice due to complex public budgeting and procurement processes, further aggravating the precarious situation.

Deployment in the cloud enables cloud-native software solutions to fully realize their capabilities for scalability and elasticity. In the cloud, computational resources (e.g., processing power or storage) can be scaled up nearly instantaneously, as needed. This way, regulators can respond immediately to dynamic spikes in demand, such as seasonal peaks, and also to hedge against growing workloads in

general. Also, cloud resources can be released automatically when demand subsides, thereby avoiding idling and unnecessary cost. Hence, cloud deployment lends itself in particular to short-term ad-hoc data collections. Additionally, cloud deployment brings with it outsourcing of IT resources and therefore significantly reduces IT maintenance effort and also costs (due to the economies of scale of cloud providers). However, the perks of cloud-native software architecture can also be partially transferred to classical on-premises deployment, e.g., for improved parallelization compared to legacy software solutions. Thus, cloud-native software can offer considerable advantages in scalable on-premises environments (“private cloud”) as well.

“Combining a cloud-native solution, such as Abacus Regulator, with cloud deployment, time-to-market can be dramatically reduced.”

Significant Improvement in Regulation-to-Industry

Besides the technical advantages of the cloud, it also brings with it significant business value for both competent authorities and supervised entities.

In the fast-evolving world of regulation, time-to-market is a key stability factor, i.e., how timely regulatory changes, innovative features or even critical bug fixes can be deployed and put into production (“regulation-to-industry”). With classic on-premises deployment, provisioning, installation, and system testing usually require considerable time, in no small part due to a plethora of IT infrastructures. This applies both to updates provided by a vendor and to those developed by the regulator itself, and is especially true for initial efforts and implementation projects.

Combining a cloud-native solution, such as Abacus Regulator, with cloud deployment, time-to-market can be dramatically reduced. For a cloud-native solution, both regulatory and software updates and improvements can be provisioned continuously in short release and feedback cycles due to an integrated continuous development stack, microservice architecture and containerized software deployment. In addition, the latest software version can be made available to the regulator seamlessly in short time frames via a cloud deployment, which is facilitated by highly standardized cloud environments. Time-to-market for changes to the regulatory metadata (e.g., for ad-hoc data collection) can be further enhanced by integrated cloud-based tooling for management and deployment of machine-readable regulatory metadata (e.g., templates, validation rules, or workflows) in a self-service fashion by regulators.

Cloud deployment of a suitable cloud-native platform for regulators allows for a speed-up of overall SupTech agendas by allowing for rapid provisioning of whole new feature sets as well as of the required prerequisites.

Data Security and Privacy

While both technical and business benefits favor adoption of the cloud, concerns about data security and privacy have impeded this development.

Regulators govern over highly sensitive data that is of interest not only for common cybercriminals, but also for well-endowed state actors, even more so in case of highly granular data. This makes data security and privacy a pivotal concern for competent authorities.

Regulators opting for operating their software solutions on-premises retain a high level of control regarding data security and privacy. However, with this high level of control also comes a high level of responsibility. Against the backdrop of rapidly evolving security requirements and potential attack vectors, the IT departments of regulators this way face demanding challenges often on short notice.

By contrast, for deployment in the cloud, the data security foundations are governed by the cloud provider. Here, commercial cloud providers have developed independently audited security best practices to cater to their diverse client base. The security operations of cloud providers in this context profit from economies of scale, allowing for multi-layered and -tiered security protocols, which would be all but cost-prohibitive for most regulators. Also, the data privacy practices of commercial cloud providers are usually certified to conform with (supra)national data privacy frameworks. However, it should be addressed that all US-based cloud providers are bound by the CLOUD Act to provide client data entrusted to them as requested to US government agencies, regardless of whether the data are stored in the US or on foreign soil. Similar provisions of the National Intelligence Law of the People’s Republic of China hold true for China-based cloud providers.

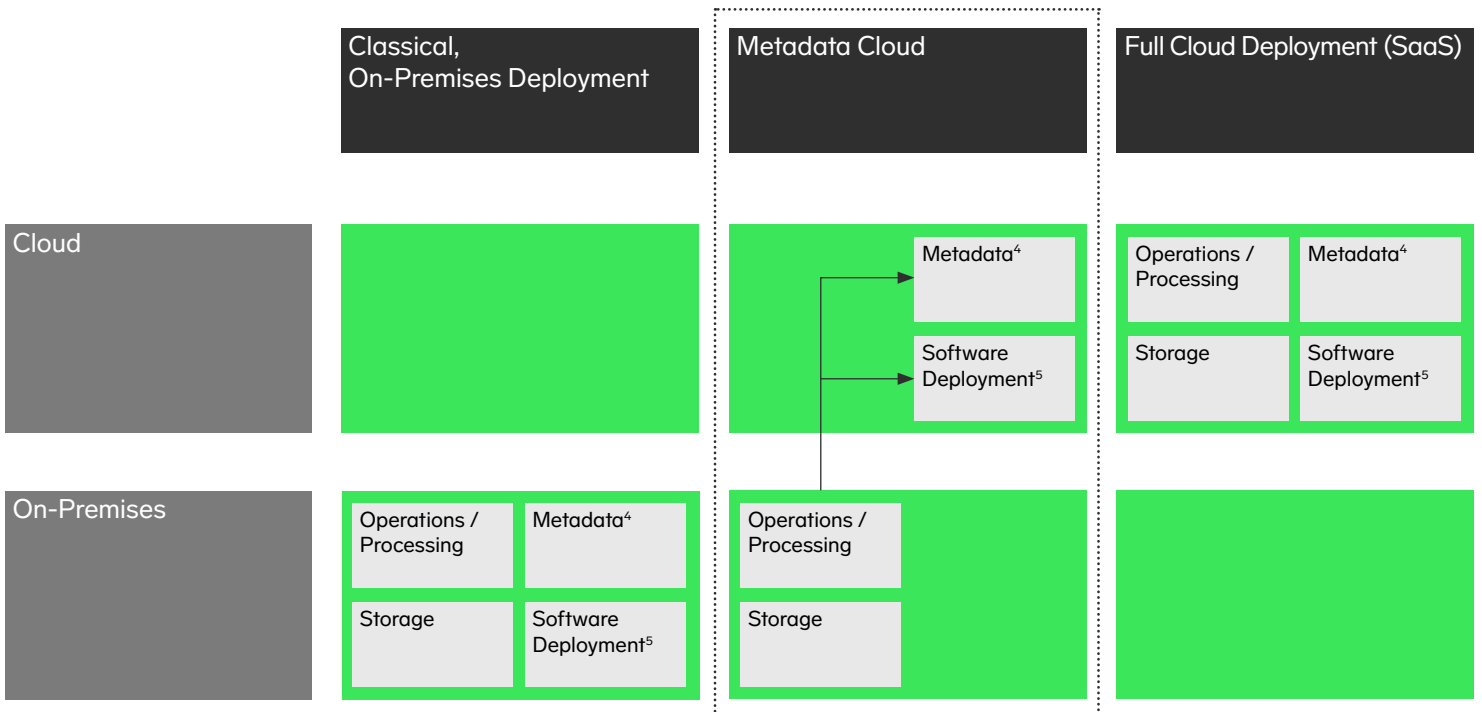
Our Approach for Embarking on a Cloud Journey: the Metadata Cloud

With our cloud-native solution Abacus Regulator, we are – as of today – ready to provide full cloud deployments for central banks and financial supervisory authorities, who would like to explore this possibility with us as part of their innovation agendas. However, we are well aware that legal and governance issues still pose a significant hurdle for competent authorities around the globe to move highly sensitive regulatory reporting data and basic data collection operations to the cloud, especially against the backdrop of factors such as the United States CLOUD Act.

Therefore, we would like to offer an innovative, best-of-both-worlds approach, which we dub the “Metadata Cloud” (MC) approach, to central banks and financial supervisory authorities in order to leverage the business advantages of the cloud with a low organizational entry barrier, while still addressing these concerns.

Under the Metadata Cloud approach (see figure below), basic operations and the storage of actual regulatory reporting

data remain on premise at the competent authority, alleviating data protection and privacy concerns. By contrast, the provisioning of Abacus Regulator, system testing and the client-specific storage of public or less sensitive regulatory metadata (such as reporting obligations, templates, validation rules, workflows, etc.) are moved to the cloud in an as-a-service fashion. This way, competent authorities are able to benefit from significantly improved regulation-to-industry, as described above. Instead of being bogged down by time-consuming installation, update and testing procedures, competent authorities would just “mirror” the version of interest of the solution or regulatory metadata as provided in the cloud to their on-premises operations across multiple instances³, allowing them to roll out new features or regulation in a speedy and agile fashion, while retaining full operational control. Shifting regulatory metadata to the cloud also opens up a direct and low-entry-barrier avenue to providing the industry with machine-readable regulation reducing ambiguity and thereby increasing data quality.



Comparison of classical, on-premises deployment (left), the Metadata Cloud approach (center) and full cloud deployment (right).

³ e.g., after cloud-based testing

⁴ regulatory logic, i.e., data models & mappings, templates, validation rules, data transformations & aggregations, etc.

⁵ incl. system testing

We at Regnology would like to accompany central banks and financial supervisory authorities in advancing their SupTech agendas by pivoting to the cloud. If this communication has raised your interest, please get in touch with us.




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About Regnology

Regnology is a leading international provider of innovative regulatory, risk, and supervisory technology solutions (RegTech, RiskTech, and SupTech), of AEOI and tax reporting products, as well as of services along the Regulatory Value Chain for financial services. Regnology has been a partner for banks and regulators for 25 years. Until end of 2020, the company was part of BearingPoint group and operated under the name Regnology. Since the sale of the RegTech business to private equity firm Nordic Capital, the company is independent. In June 2021, the company joined forces with Vizor Software and recently changed the name to Regnology. In total, Regnology serves more than 7,000 financial services firms with reporting solutions. At the same time, the company enables more than 50 regulators and tax authorities on five continents to collect data from 34,000 firms in 60 countries. The combined company has a total workforce of over 770 employees at 17 office locations in 12 countries.



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