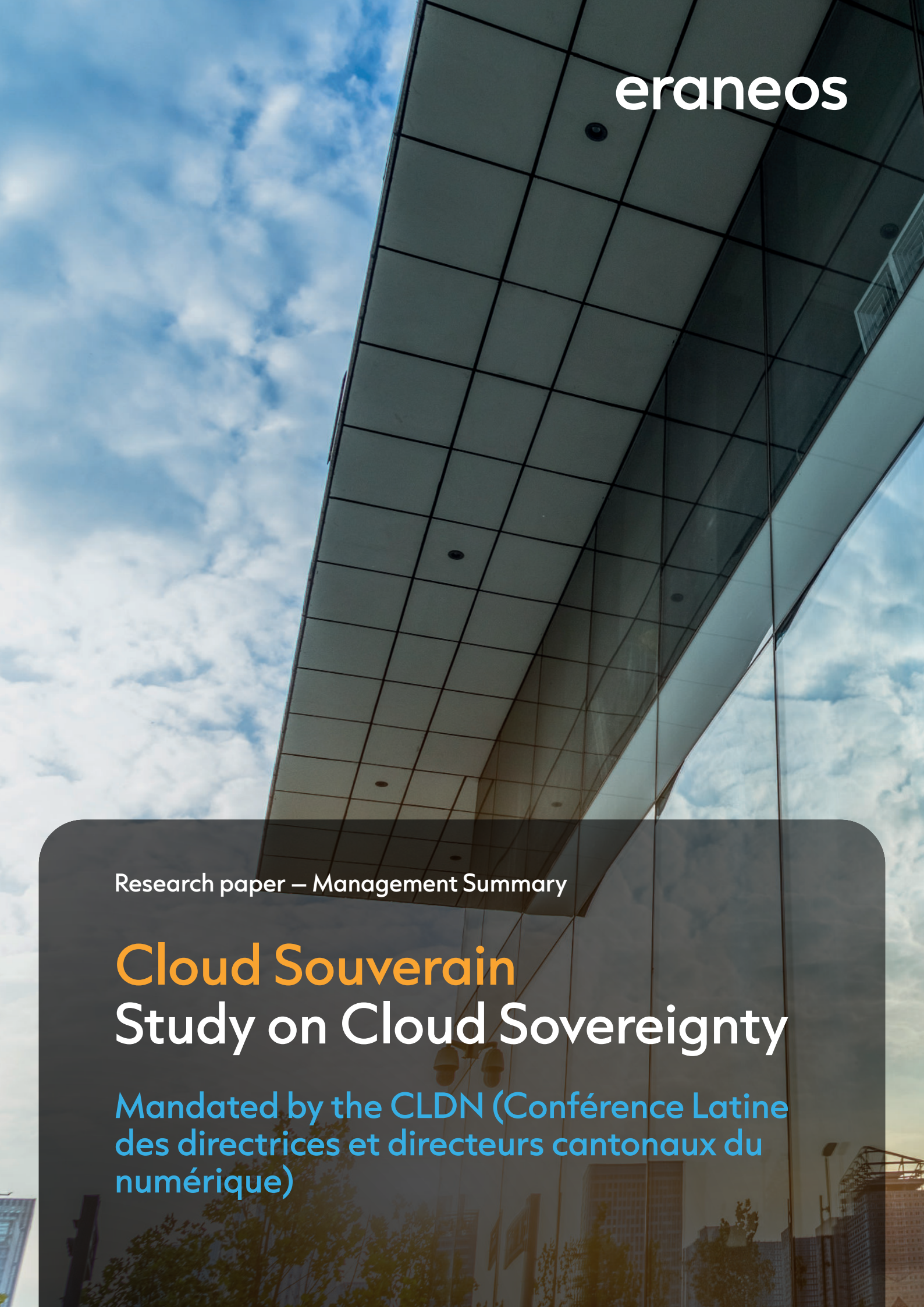

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Research paper – Management Summary

Cloud Souverain
Study on Cloud Sovereignty

Mandated by the CLDN (Conférence Latine des directrices et directeurs cantonaux du numérique)

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Management Summary

The issue of administrations storing data in the cloud is currently being debated in Switzerland and elsewhere in Europe. The increasing use of IT solution providers, the concentration of the market into a few major global suppliers (the so-called "hyperscalers") and the new skills that are required to manage these solutions are feeding concern about the sovereignty of public administrations. In practice, it's hard for public administrations to avoid cloud computing technology and solutions altogether as they offer businesses added value by increasing their efficiency and enabling innovation in many different areas of activity. Nevertheless, it's worth considering the challenges associated with transitioning to the cloud. The trend shows that the on-premise[1] solutions used today will in future increasingly be offered exclusively in the cloud. Public administrations are therefore obliged to act and move toward the cloud if they would like to continue benefitting from certain solutions or find alternative ones. They can't maintain the status quo if they want to continue to evolve and meet urgent demands from citizens, companies and their own employees.

How then can you guarantee the sovereignty of a cantonal administration – or a public one in the wider sense – in the context of cloud solutions? The present study addresses this question with the initial aim of analyzing the opportunities for setting up a "sovereign" cloud. According to discussions with the IT officers of public[2] and parastatal[3] administrations as well as local and global suppliers of IT and cloud solutions, there is no consensus on the basic elements of this question. There is neither a shared understanding of the significance of digital sovereignty nor the services and use cases that a "sovereign" cloud should provide. For this reason, the authors of this study focused partly on formalizing the notion of digital sovereignty, partly on drawing up a model[4] that aims at supporting public and parastatal administrations in defining their respective needs with regard to digital sovereignty. This could be applied to IT systems and use cases, irrespective of whether they are cloud-related or not.

Within the framework of the present study, digital sovereignty is defined as follows:

> Digital sovereignty is the capacity for self-determination by a (legal) entity over the entire lifecycle of an IT system, from the design and usage of IT systems to their decommissioning, the data that are processed and stored on such systems, as well as the processes they represent.

1
The term "on-premise" literally means "on the user's site". In this utilization model, the user buys or rents software that is then installed on their own server.

2
The cantons of Vaud, Geneva, Valais, Fribourg, Neuchâtel, Jura, as well as the city of Geneva.

3
Geneva University Hospitals

4
The digital sovereignty model developed in this study consists of an approach for defining the needs regarding digital sovereignty and an analytical framework

Management Summary

This definition, employed within a deliberately technical study, could be expanded at a later date to reflect sovereignty in a wider framework.

This definition led to 12 dimensions of digital sovereignty that enable us to define the requirements with regard to digital sovereignty: system development, durability, data processing, data localization, system availability, access to the system and the data, change management, exit strategies, data extraction, the legal framework, expertise, and contracts.

Applying the definition of digital sovereignty to a cloud solution doesn't provide a single answer. Nor is there a single answer to the initial question addressed by the study (the opportunities for a "sovereign" cloud). This is due to the fact that there is no level of sovereignty that applies to every use case. As a consequence, public administrations must analyze the sovereignty requirements needed for each use case. Public administrations could therefore consider setting up a sovereign cloud solution once the required level of sovereignty has been defined.

This study thus provides cantonal administrations with setup variants that cover different levels of sovereignty. It presents four types of variants that reflect current availability on the local and global market[5]; internal setup options that are feasible for public administrations.

In closing, the study makes recommendations with the aim of promoting the issue of digital sovereignty in the public sector. This study recommends the following courses of action:

- Formulating cantonal principles and strategies for the utilization of cloud services for administrations
- Identifying the use cases for the utilization of cloud services and classifying data in detail
- Identifying the synergy effects and opportunities for the utilization of cloud services by a broker for all cantonal administrations
- Creating a reference framework

5
A market survey was conducted within the framework of this study. The results can be requested from Eraneos Switzerland AG.

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