Key Points

A sovereign cloud and data infrastructure for Germany and Europe

15/11/2019

Summary

There are ongoing discussions about a European cloud and data infrastructure to strengthen Europe's digital sovereignty and data sovereignty in Europe, culminating in the concrete project of Gaia-X led by the German government. At its core lies the question how to maintain Europe's ability to act independently in the digital world. This question pertains to both governments, as well as to entrepreneurial and individual customers' actions. Sovereignty in this context refers to the ability to develop capacities in central technological fields as well as services. It includes the possibility to freely choose between viable alternatives provided by trustworthy international partners. The following paper describes some of the central aspects for the further development of the project from Bitkom's perspective.

Starting Point

1. European cloud and data infrastructure, which are comparable to existing market actors both in terms of functionality and scalability, do not currently exist. The market for highly scalable infrastructure is almost exclusively dominated by non-European suppliers. These systems are often referred to as hyperscalers.

2. There are two key concerns with regard to sovereignty when exclusively relying on international solutions: Recent interventions in international trade have shown that a (one-sided) dependence on products and services from single countries may lead to limited capacity to act in case of political disagreement. Additionally, reluctance of European governments and companies to use such cloud solutions lead to a slower implementation of cloud systems in Europe and thus means that their potential for our economy and the public sector is not fully leveraged. These concerns exist i.e. due to access rights of non-European security agencies on data that is being managed on such services, which are not transparent for users. Furthermore, competing and conflicting legal regimes with regard to data protection raise concerns.

3. Given this background, considerations to strengthen the competence of European authorities and companies in this field are welcomed. Besides further work on the

Bitkom
Bundesverband
Informationswirtschaft,
Telekommunikation
und neue Medien e.V.
(Federal Association
for Information Technology,
Telecommunications and
New Media)

Benjamin Ledwon
Head of Brussels Office
P +32 2 60953-21
b.ledwon@bitkom.org

Torben David
Manager EU Public Policy
P +32 2 60953-16
t.david@bitkom.org

Albrechtstraße 10
10117 Berlin
Germany

President
Achim Berg

CEO
Dr. Bernhard Rohleder

GAIA-X project, this requires improving the framework conditions in Europe for the development of future-proof business models. Conditions are needed under which the development and scalability of cloud and data infrastructure and their ancillary business models is enabled and promoted. This includes facilitating growth financing for young and dynamic companies, completing the Digital Single Market, reducing the regulatory burden and improving conditions for data centres as a foundation of the digital transformation. Importantly, the public sector may play a crucial role in increasing initial demand for such services which can help growing new digital solutions from Europe sustainably.

4. Regarding access rights by security authorities, regulatory and technical approaches as well as international diplomacy should be employed to solve open questions on data sovereignty and to guarantee these rules for users in Germany and Europe. Any weakening of IT security by government mandate needs to be prohibited. Additionally, decentralized approaches of cloud computing paradigms like edge computing can help to secure data sovereignty on a technical level. The different approaches need to interact and complement each other in a sensible fashion. Additionally, involvement of the public sector should not lead to weakened data sovereignty for private partners and users vis-á-vis European security authorities.

5. Measures to strengthen digital sovereignty and data sovereignty in the context of cloud and data infrastructure need to be European. Their implementation needs to come from the European level.

6. For the creation of a performant European cloud and data infrastructure, actual needs of users and market viability need to be central. In the mid-term, the clear goal should be to address these needs. To this end, it is more promising and efficient to build on existing services, resources and infrastructures, and to support their performance, availability and trustworthiness. The control over data has to remain with the respective users in Germany and Europe. Existing considerations to create a “virtual hyperscaler” through systematic linkage of existing infrastructure and cloud services with competitive scalability and flexibility are therefore moving in the right direction.

7. Enabling the simple use of different compatible and trustworthy cloud services through the establishment of a reference architecture, which defines the technical and organizational conditions for sovereign use, is therefore equally sensible. This reference architecture, as well as the governance structure that needs to be created for it, should enable all providers fulfilling the objective criteria to participate in the ecosystem. The most important criteria for the creation and organization of a governance layer are the capac-

ity to act, neutrality, trustworthiness and scalability. Furthermore, the reference architecture has to always remain competitive.

8. The infrastructure and service provided by Gaia-X will have to face a highly competitive market. The more GAIA-X meets the demand by a wide variety of users, the better are its chances of success. Functionality and price will play an equally important role as trustworthiness and transparency. The GAIA-X architecture has to be interoperable and modular (multi-cloud-approach). In order to achieve the proclaimed goals, the following principles have to be taken into account: open source, open API, open standards and open documentation. The user has to be in control of the data. From the user's perspective, these principles guarantee the necessary flexibility and avoid potential lock-ins and dependencies on single providers. It is important to take into account that the needs of private or public entities respectively can differ, which could necessitate different requirements depending on the intended application and risk level. GAIA-X should create a secure environment in which data exchange respecting individual interests will be enabled. It will lead the way to wider data availability for European economies.

9. For the success of this project it is furthermore important that participation in the GAIA-X system is attractive for existing cloud infrastructure and service providers. It therefore needs to offer the possibility to generate additional or more efficient business opportunities. The effort needed to participate in the project has to be in relation to these advantages. When developing conditions for joining the ecosystem, developed and developing standards in fields like data protection and security should be considered as closely as possible. To this end, the project needs to build on current developments and technologies in Europe. For instance, the reference architecture model of the International Data Spaces Association should be considered for the development of data sovereignty rules. Besides fulfilling concrete requirements like security, transparency and interoperability, providers also need to have the ability to differentiate themselves from each other.

10. The technological, organizational and legal complexity of the GAIA-X project is high. Whether or not its market success is feasible while also fulfilling the various requirements demonstrated in this paper remains to be seen as the details are being worked out. Bitkom supports the efforts to strengthen digital sovereignty and data sovereignty in Germany and Europe, as long as the measures do not lead to protectionist isolation of our markets. Bitkom therefore supports the project and its further development with the experience of its membership, from a user as well as a provider perspective.

Bitkom represents more than 2,700 companies of the digital economy, including 1,900 direct members. Through IT- and communication services alone, our members generate a domestic annual turnover of 190 billion Euros, including 50 billion Euros in exports. The members of Bitkom employ more than 2 million people in Germany. Among these members are 1,000 small and medium-sized businesses, over 500 startups and almost all global players. They offer a wide range of software technologies, IT-services, and telecommunications or internet services, produce hardware and consumer electronics, operate in the digital media sector or are in other ways affiliated with the digital economy. 80 percent of the members' headquarters are located in Germany with an additional 8 percent both in the EU and the USA, as well as 4 percent in other regions of the world. Bitkom promotes the digital transformation of the German economy, as well as of German society at large, enabling citizens to benefit from digitalisation. A strong European digital policy and a fully integrated digital single market are at the heart of Bitkom's concerns, as well as establishing Germany as a key driver of digital change in Europe and globally.