

Integration of Cloud Computing in The Public Sector: A Case Study in the Austrian Government

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Abstract— Cloud computing is introducing the next big shift in the IT-industry. It fundamentally changes the IT-strategy of organizations. Cloud computing promises many advantages such as reduced capital expense, support of brief surges in capacity and a better economies of scale [1]. Cloud computing is not only a useful technology for the private sector rather it also can benefit the public sector in many ways [2]. It makes e-government systems faster and cheaper and accelerates the adaptation of use of IT by citizens [3]. Cloud computing is high on the agenda of Obama administration and is being used by federal and local governments with significant benefits [4]. In the European Union the potentials of the Cloud computing have been recognized and the Cloud agenda is being pushed forward, not only because of its cost saving potentials but also because of its impact on the environment. In this work we have conducted a case study for integration of Cloud computing in the Austrian Public sector. The contribution of this work is identification of the requirements of the public sector and obstacles for integration of cloud computing in the Austrian public sector. In this case study eight ministries and the office of chancellor have been interviewed.

The most important requirements of the Austrian public sector can be summarized as follows:

- Legal compliance: The most important factor for the public sector is legal compliance. E.g. the Austrian and European laws require that data remain within the borders of the European Union.
- Reliability: The public sector policies are long-term. It must be ensured that any Cloud solution and provider exists in the coming 10-20 years.
- Availability: The Austrian public sector requires that its services be available at least from 7 AM to 7 PM MET. In case of the Austrian ministry of foreign affairs from 7 AM to 7 PM local time.
- Compatibility and connectivity: Any Cloud solution must be compatible with already available in-house solutions. Each ministry runs its own in-house servers.
- Scalability: Services must be scalable enough such that citizens can also be served in peak times.

The obstacles for integration of Cloud computing in the Austrian Public sector can be summarized as follows:

- Data security and privacy: This is the biggest challenge. Putting the private data of citizens in the hand of third party service providers is very sensitive.

- Network security: Ministries and organizations within the Austrian public sector are connected through Corporate Network Austria (CAN). Within this trusted network authentication and data transport security is not a major concern. Cloud computing poses a fundamentally new challenge as Internet cannot be regarded as a trusted network.
- Lack of knowledge about available systems: Each department runs its own applications. Many concurrent technologies and operating systems run in parallel. Acquiring knowledge about the current state and used technologies is a tedious task.
- Previous investments: The public sector has invested heavily in IT-infrastructure. Migration of available solutions onto cloud makes previous investments unneeded.
- Business continuity: Because of lack of interoperability between cloud providers, moving between cloud providers is almost impossible. IT-strategist in the public sector state the concern what if a cloud provider goes out of business and it is impossible to move to another cloud provider.

In conclusion, security and privacy is the biggest challenge for the integration of Cloud computing in the Austrian public sector. A possible solution would be a cloud run by the European Commission itself that hosts applications of the member states.

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