

Flexibility in financial services through the cloud

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This paper elaborates on the work between CloudSigma [1] - an innovative public infrastructure as a service provider, and Deutsche Börse [2] - one of the largest financial exchange organisations worldwide in deploying a proprietary cloud-based solution to provide trading members with self-provisioned, on-demand access to Eurex' s T7 trading architecture for testing and development purposes.

This paper not only covers the purchasing requirements and considerations but also the approach and challenges of a large corporate operation looking to leverage public cloud infrastructure and the experiences of launching a cloud-based application in an organisation more accustomed to traditional deployment on dedicated infrastructure.

Who stands to benefit and how

Both end users and service providers will gain insight into the approach and process of this real-world use case resulting in a successful deployment of a new product by a large corporate entity using public cloud. Deutsche Börse's experience in leveraging public cloud is directly applicable to any larger organisations with strict data security requirements currently considering incorporating public cloud infrastructure into their future strategy. Key success criteria and requirements are outlined, as well as lessons learned and best practices as a result of both organisations' experiences to date.

Business models and sustainable services – Meeting requirements

Deutsche Börse did not start out to build an application in the cloud when they started work on Virtualised Private Simulation. On the contrary, the project team tried to avoid the cloud approach. They feared resistance based upon the many misconceptions that are often associated with cloud technology. However, upon weighting the requirements of the project, including low cost to implement (with minimal CAPEX), fast development cycle, highly varying usage patterns and high availability from many geographic locations, the facts were more than enough to overcome any resistance within the organization. The only practical option was to launch Virtualised Private Simulation in the cloud.

In order to build expertise in deploying cloud-based applications quickly, the Deutsche Börse VPS project group worked with CohesiveFT, a firm that specialises in cloud-based application deployment. With CohesiveFT's assistance they analysed requirements and evaluated cloud providers to identify the best fit.

The technical requirements are as follows:

- » Very fast virtual machine start-up time.
- » High degree of data privacy (ensuring adherence to German privacy laws as well as Deutsche Börse Group data security policies).
- » Compatibility with existing proprietary software without modifications.



» High-capacity virtual machines (12-18 cores, 24 – 32 GB RAM).

» Support for user-uploaded disk images of >50GB size.

As such it was critical that the chosen cloud matches closely the existing production environments of Deutsche Börse's trading systems whilst at the same time is offering stability, performance and a pricing model that made sense for an on-demand SaaS platform.

They finally settled on working with CloudSigma in their Zurich data centre. CloudSigma provided the reliability, capacity and flexibility required by Deutsche Börse at a competitive rate.

Addressing key concerns impeding the mainstream adoption of the cloud

Project teams often face resistance when considering cloud-deployment for mission-critical or highly proprietary systems. Deutsche Börse's VPS development team was no different. In order to address key stakeholders' concerns, the project team spent a lot of time working with them to identify their pain points and took these challenges into account while designing and implement VPS.

The two biggest concerns in deploying VPS into the cloud for Deutsche Börse were data privacy & security and operational impact.

Data privacy & security: As a German company, Deutsche Börse must comply with German privacy laws as well as strict company policies on data security. To address the privacy concerns, the VPS team designed the system so that no user information is stored in the cloud. To ensure data security, the project team worked with group security experts to build encryption into every aspect of the system. Lastly, by choosing a Swiss-based cloud provider, Deutsche Börse also started to benefit from the strict data and security protections in Swiss law.

Operational impact: Security and privacy of course are important. But so are reliability and supportability. Identifying a cloud solution that provides the reliability their customers expect was important for the VPS team.

Lastly, it was important to develop new support tools and to update operational policies and procedures to work in the cloud. Existing tools and support procedures were not sufficient to extend into the cloud.

CloudSigma proved to offer the best combination of reliability and supportability balanced with a high degree of privacy and data security protections.

Links and References

[1] <http://www.cloudsigma.com/>.

[2] http://deutsche-boerse.com/dbg/dispatch/en/kir/dbg_nav/home.

