

Step into the cloud and take full advantage of AWS Managed Cloud Services



About Deutsche Telekom IT GmbH

DTIT is the internal IT service provider of Deutsche Telekom AG. DTIT is responsible for the design, development, and operation of all its owned and transferred IT systems supporting business processes at Deutsche Telekom AG. DTIT creates user-friendly web portals with intelligent self-service functions to create the basis for an integrated, cross-channel customer experience with the Telekom Magenta brand.

Executive summary

Starting in 2018, DTIT is still undergoing an IT transformation program aiming to increase adoption of agile methods and forms digital hubs to enable the full range of public cloud capabilities for internal applications. The main challenges, in the highly regulated Telco business, are the comprehensive security requirements and standards, including Deutsche Telekom's own rigorous requirements.

Within this project, the focus was set on the migration of the INKA system and its subsequent operation in the AWS cloud. The INKA system is used in organizational units of Deutsche Telekom for the creation of cost calculations, which are used as the basis for offers to external customers.

Since T-Systems has a proven track record of delivering solutions complying with challenging security requirements while preserving the agility of the public cloud, they were contacted by DTIT as a partner to support and accelerate their project.

The challenge

Challenge 1:

Perform a Lift & Shift migration of the INKA system while staying in control of security and compliance. Plan, prepare, test, and implement the migration from an on-premises setup to the AWS cloud.

Challenge 2:

The customer is highly focused on developing and maintaining the application, but, before migrating to AWS, platform and infrastructure operations have been done by a 3rd party, as the customer does not have the skills and the capacity for it. As part of the migration, T-Systems also took over the managed services reaching from Monitoring, Backup, Patch Management up to Amazon EC2 instance scheduling for cost optimization in Non-Production and Production Environments.

Why T-Systems as a partner

T-Systems has a proven track record of delivering solutions complying with challenging security requirements while preserving the agility of the public cloud.

T-Systems offers

- comprehensive cloud consulting and engineering for AWS across the whole application stack,
- specific cloud security expertise, including AWS certified security specialists,
- security reviews and assessments of existing applications running on AWS,
- and managed services with a strong focus on security and compliance, but also covers common activities such as Amazon EC2 or RDS Monitoring & Alerting, Backup, Patch Management with a 24x7 support model.

The solution

1. Migration

After an in-depth assessment with the customer and a consultation about the benefits of AWS, T-Systems has determined Lift & Shift as the initial migration strategy for the INKA application.

Within a technical assessment T-Systems has analyzed the structure and state of the application landscape. This has helped to define the timeline for the migration of the applications.

The architecture consists of an application server and a database server, which is located in one of the availability zones of the shared virtual network of the DTIT Landing Zone. Amazon Route 53 is used to resolve DNS queries. Encryption is supported by the AWS Key Management Service (KMS).

After the migration there were certain requirements that needed to be fulfilled in order for the handover process to the T-Systems Managed Cloud Services Advanced be successful.

These included:

- remove old data center related software/agents
- install cloud-native agents for system management and logging
- configure updates in the new environment
- grant access for the operations team to the cloud account(s) and instances

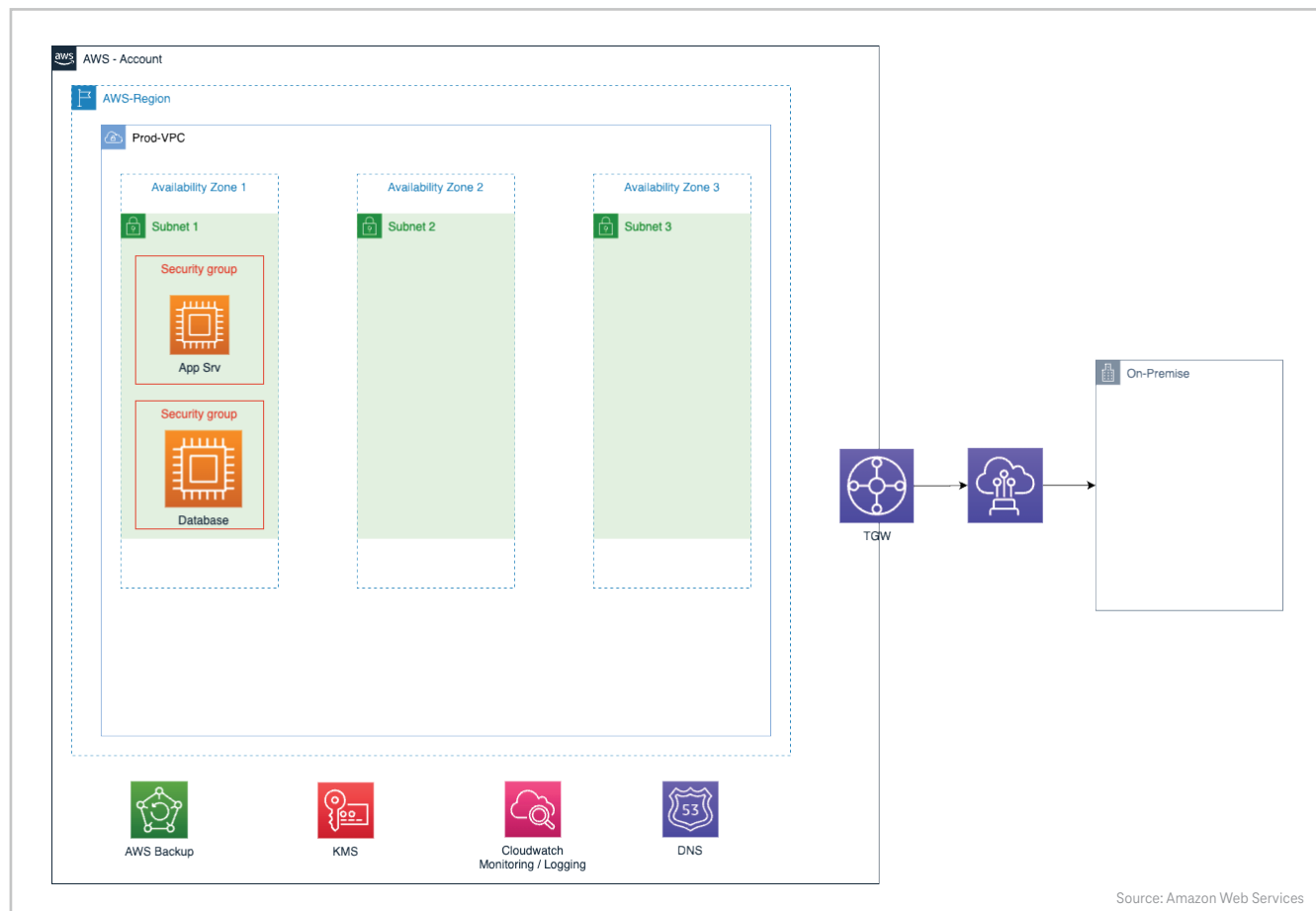
Once the migration was complete, T-Systems started operating the new setup with T-Systems Managed Cloud Services Advanced for AWS.

2. Provisioning of Managed Cloud Services by T-Systems

DTIT uses AWS Managed Cloud Services by T-Systems to ensure a secure and reliable setup for the INKA application and to take advantage of new technological capabilities in future. When the T-Systems team took over the environment, all components have been deployed and configured using Infrastructure as Code (IaC). For monitoring and alerting, Amazon CloudWatch metrics and alarms were reviewed and adjusted to meet customer's needs. The scheduling for starting and stopping of Amazon EC2 instances, backup, and maintenance windows were customized for each environment based on specific requirements, leveraging AWS Systems Manager and AWS Backup.

Before customer go live all acceptance criteria have been fulfilled and documented in the Customer Service Manual.

1. Check that the CloudWatch alarms are being sent to Opsgenie (Amazon SNS → AWSLambda → Opsgenie)
2. Check that backups are performed successfully according to the configuration in AWS Backup
3. Check that the patching is working correctly using AWS Systems Manager
4. Make sure the CSM (Client Solution Manual) is filled out and finalized



Results and benefits

Benefit 1:

The solution described has enabled the customer to take the step into the cloud in a timely manner, as the old setup implemented on the IT server farm was going to be decommissioned. The customer can continue their operations without any disruptions. The implemented solution achieves all the requirements and is essentially future-proof, allowing the customer to scale quickly and be more flexible.

Benefit 2:

DTIT benefits from T-Systems' expertise in running workloads at scale, which helps save time and lowers overall cost. The new cloud setup is designed to be future-proof and cost-efficient, thanks to services such as the Amazon EC2 Instance Scheduler, which helps reduce operational costs by stopping resources that are not in use and starting resources when capacity is needed. Additionally, automated backup and patch management have improved reliability and operational excellence for the customer.

About APN Partner

With a footprint in more than 20 countries, T-Systems is one of the world's leading vendor-independent providers of digital services headquartered in Europe. The Deutsche Telekom subsidiary offers one-stop shopping: from the secure operation of legacy systems and classical ICT services, transitioning to cloud-based services as well as new business models and innovation projects on the Internet of Things. T-Systems is also an accredited AWS managed service provider and premier consulting partner with more than 500 experts on AWS and a growing list of competencies such as security, migration, SAP and has experts for well-architected reviews.

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