

AWS Landing Zone for a smooth takeoff into the cloud

T-Mobile Czech and Slovak Telekom benefit from T-Systems' consulting approach by reducing dependencies on old platforms and a digitalized approach to new projects



Reference project:



“T-Systems’ consulting approach helped us to smoothly transition to AWS. Not just that, it also brought significant advantages by enabling us to retire old platforms, reduce dependencies, and support new projects in the cloud.”

Peter Kusik, IT4IT&Infrastructure Tribe Lead, T-Mobile Czech and Slovak Telekom

In line with Deutsche Telekom’s mission of becoming the leading digital Telco, all European Telekom NatCos (national entities of Telekom) pursue ambitious cloudification targets to accelerate projects and enable further innovations. To realize this ambition, T-Systems helped T-Mobile Czech and Slovak Telekom (TMCZ/ST) to swiftly move to AWS. As a base, the DT One Landing Zone for AWS was used; an approach for standardizing and accelerating the onboarding of different business organizations to AWS.

At a glance

- T-Mobile Czech and Slovak Telekom were looking to onboard to AWS and establish a landing zone for accelerating projects, driving innovations, cloudification, IT landscape consolidation.
- T-Systems leveraged the DT One Landing Zone for AWS as a base to standardize and accelerate the onboarding of different business organizations to AWS.
- After two months of engagement, a usable environment was ready, and after nine months, production readiness was achieved.
- Quick and smooth transition with easy access to comprehensive documentation & training.
- Retirement of old platforms, reduction of dependencies, enablement of new projects in the cloud environment.
- Tools used: Amazon GuardDuty, Azure Sentinel, AWS Security Hub, AWS Config, Telecom tool - Cloudshepherd, Zabbix, GitLab, Terraform



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Reference in detail

The challenge

T-Mobile Czech and Slovak Telekom approached T-Systems with an ambitious timeline of only two months, to onboard them onto AWS and establish a landing zone that would serve as a platform for accelerating projects, driving innovations, achieving cloudification goals, and consolidating the IT landscape.

The scope of work included the following typical landing zone topics:

- Account Factory
- Access Management
- Network Integration
- Security and Compliance
- Cost Management

The solution

I – Consulting

The T-Systems AWS team collaborated very closely with the customers, working with the EU-IT initiative as well as Deutsche Telekom IT (DTIT), as a solid understanding of the target environment is highly beneficial to deliver a fast onboarding. Our consulting approach ensured a balance between standardization and flexibility, helping TMCZ/ST to customize their AWS environment for their unique business needs. We started by gathering requirements at workshops.

The goal was to understand the existing setup and the customers' IT processes as well as to define success criteria for this project. A key focus was the adoption of DT's One Landing Zone features, with appropriate and stable network integration. This eliminated

the need to build a separate organization and Landing Zone, accelerating the onboarding process. Collaboration with the customers' security team was also key to the project's success and realizing an approved, production-ready environment.

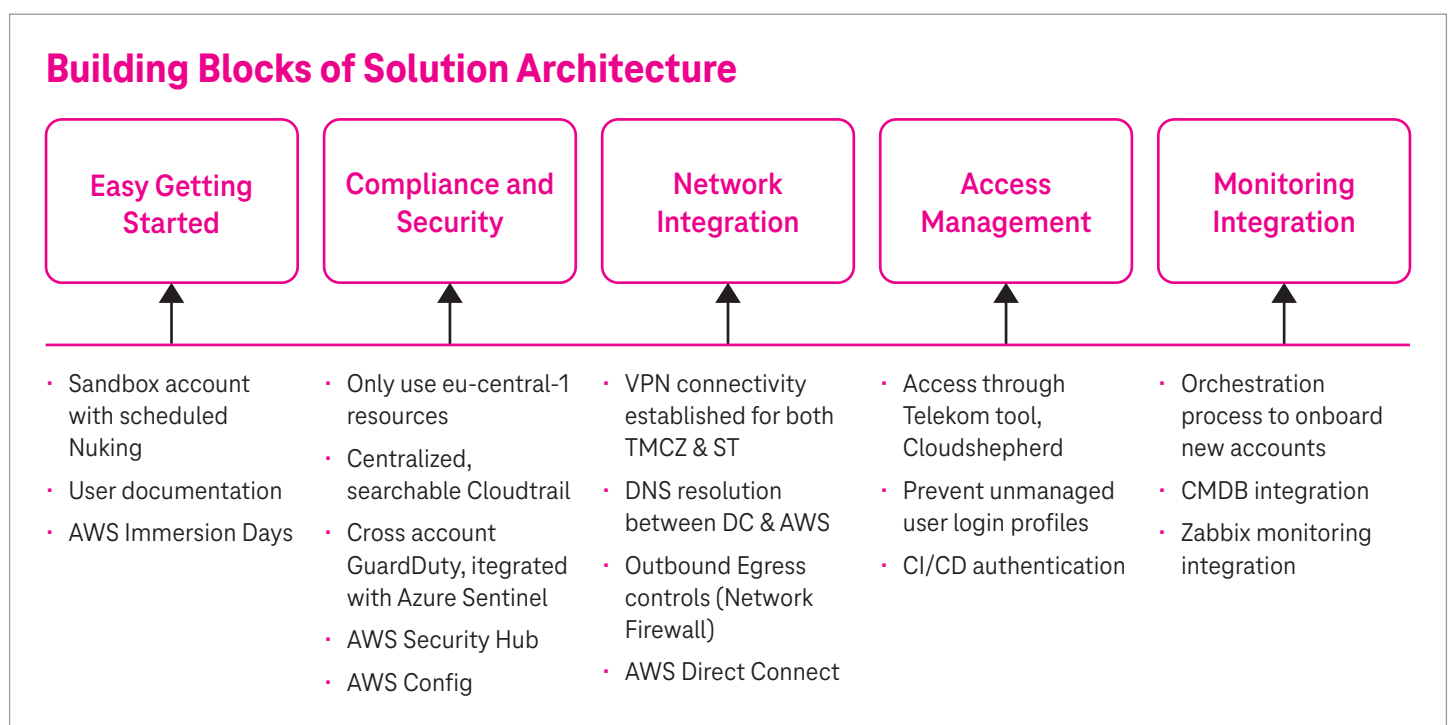
The team followed a rigorous Infrastructure as Code approach, utilizing GitLab and terraform, thus eliminating the need for manual changes to critical components of the environment and helping the client to embrace DevOps principles Kanban methodology to run the project in an agile way, working backwards from client requirements and priorities. Architecture Decision Records were maintained to assess and document various options to implement corporate integrations, including network, Configuration Management Database (CMDB), security management, and access control.

II – Knowledge Ramp-up via AWS Immersion Days

AWS Immersion Days are an in-depth, hands-on trainings for teams looking to learn more about AWS services and solutions. The training content can vary and focus on specific services or solutions or provide a more general overview of the AWS platform. T-Systems conducted various AWS immersion days on-site for T-Mobile Czech Republic and Slovak Telekom. These sessions, focused on topics such as the landing zone and security, storage and backup replication, Well-Architected Framework Reviews, DevOps, and SAP on AWS. All of this enabled the customers' IT and application teams to get practical experience with AWS, ask questions, receive guidance, and explore AWS best practices.

III – Solution Architecture

The solution architecture comprised the below building blocks (see image):



Reference in detail

- 1. Shared Sandbox Account:** The provision of a shared sandbox account allowed users to explore and familiarize themselves with the AWS environment without the risk of polluting production resources. Scheduled nuking of the sandbox account helped maintain a clean and cost-effective environment.
- 2. CMDB Integration:** A Config Aggregator of the AWS Config service is set up to collect and query resources from multiple AWS accounts and regions in a centralized location. The customers' commercial off-the-shelf configuration management database and collectors can integrate either directly with AWS accounts or by using the Config Aggregator, the latter approach was selected and applied for easier maintenance.
- 3. Monitoring Integration:** Zabbix as a monitoring solution has been implemented for Slovak Telekom. Besides the central Zabbix instance, a so-called Zabbix proxy is deployed on each major infrastructure platform (for better reliability and scalability). It collects data from the machines running on the platform, aggregates the data, and sends it to the central server. A Zabbix proxy was also set up on AWS so that applications using AWS can easily integrate the virtual machines into Zabbix. The team also set up the monitoring proxy in a way that they could monitor the connectivity between the datacenter and AWS. Additionally, AWS GuardDuty events (security notifications and alerts) were integrated with the customer's Azure Sentinel platform, to enhance the security monitoring and incident response capabilities.
- 4. Network Integration:** T-Systems facilitated the integration of the TMCZ/ST datacenter networks with the AWS infrastructure. This involved establishing connectivity between on-premises systems and the AWS cloud, enabling secure communication and data transfer. The team started with VPN to establish hybrid connectivity quickly and later deployed redundant Direct Connect lines for better security and more consistent throughput. Other components of the network integration were hybrid DNS setup using Route53 resolvers, routing via AWS Transit Gateway, egress traffic control using AWS network firewall, and ingress control (in PoC state) utilizing a solution from a third-party vendor that the client was using in their datacenters. Also, processes for IP address management and allocation of routable subnets to customer accounts via AWS resource and access manager were set up.
- 5. Migration Portfolio Assessment:** The business case for migration was created using server utilization data from the Configuration Management Database (CMDB) and monitoring tool (Zabbix), providing valuable insights into resource optimization and cost reduction opportunities by adopting the public cloud, specifically AWS.

Customer benefits

T-Systems understood that the key to onboarding users quickly, was to provide them with easy access, comprehensive and environment-specific documentation, and training. These aspects played a crucial role in ensuring a smooth transition to AWS. The enablement of T-Mobile Czech Republic and Slovak Telekom on the AWS platform has brought significant advantages for both the NatCos, allowing them to retire old platforms, reduce dependencies and enable new projects in the cloud environment. The adoption of DT One Landing Zone also helped with easy onboarding and secure access. More importantly, the customers were able to optimize their costs by leveraging the shared commitments of the DT One Landing Zone such as Savings Plans or Reserved Instances. Additionally, Deutsche Telekom was able to benefit from improved tiered pricing, resulting in cost savings for the entire organization.

T-Systems as an AWS Premier Consulting Partner and Managed Service Provider (MSP) continues to provide comprehensive consulting services and managed cloud services to T-Mobile Czech and Slovak Telekom. This partnership ensures ongoing support and expertise to help the NatCos maximize the benefits of AWS and the One Landing Zone.

About T-Systems

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 secure operation of legacy systems and classical ICT services, transition to cloud-based services as well as new business models and innovation projects in the Internet of Things. T-Systems also is an accredited AWS managed service provider and advanced consulting partner with more than 100 experts on AWS and a growing list of competencies such as migration, SAP and Well-Architected Framework Reviews.

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