



Case Study

Network architecture for chemical company

In cooperation with



Executive summary

The customer is a subsidiary of a chemical company and the internal IT service provider for the group. Within the group, the unit serves as a Cloud Center of Excellence and also manages the AWS landing zone for internal projects and departments.

In this engagement, T-Systems was asked to redesign the core networking architecture with the specific goal of enhancing network security in light of public internet access. Moreover, it was crucial to ensure that network connectivity could be used by several departments acting independently of each other. The solution finally was built on automation to especially consider the customer's requirements for provisioning new accounts and the migration of existing AWS accounts.

About the customer

The multi-national chemical company group comprises subsidiaries and joint ventures in more than 80 countries, operates six integrated production sites and 390 other production sites in Europe, Asia, Australia, the Americas and Africa. The company has customers in over 190 countries and supplies products to a wide variety of industries.

The challenge

T-Systems was confronted with two challenges within this project.

– Challenge 1

Intranet accounts and Internet accounts were required to be clearly demarcated and differentiated. Intranet accounts must not be accessed from the Internet. These intranet accounts are the only accounts that offer an interface to the on-premises network. Internet accounts can be reached from the Internet, but are not allowed to access the on-premises network.

– Challenge 2

To reduce cost and development effort, the network concept has to be designed in a way that it can be used by other independent departments within the group.



The solution

T-Systems being an AWS Premier Partner, has been chosen to run this consulting project as an AWS expert and advisor on best practices and to implement these within the project scope. T-Systems together with the customer created

- A project plan
- Set milestones
- Negotiated priorities
- Carried out implementation and testing

Our central solution covers a holistic network concept for two independent departments. The main focus of the solution is on one department, where the other department consumes the network connectivity from, but operates its own separate AWS environment. To cover the different network requirements of the two departments, the multifunctional capabilities of the AWS Transit Gateway were utilized. All traffic coming from the corporate data center is being routed via VPN through the AWS Transit Gateway to the connectivity account and then to the destination account in the AWS Landing Zone. For the second department the connectivity is routed through the same AWS Transit Gateway and in addition through a shared „Transit VPC“ to the respective AWS Transit Gateway in their AWS environment. The firewall routes traffic to the Internet through an AWS NAT gateway. All traffic to the Internet is blocked by default and users need to request access individually. An autoscaling set of firewalls is configured to meet the performance demands. After applying all policies, the traffic is then sent back to the AWS Transit Gateway and from there to a pair of on-premises Checkpoint firewalls.

Results and benefits

The solution described here ensures that the customer requirements for a secure and agile network architecture are met and adapted to their demands. The use of a central connection to the on-premises network with several departments also underlines the sustainability of this solution. The fact that over 200 accounts are in operation in this environment, confirms the efficacy of this network architecture.

About the 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 secure operation of legacy systems and classical ICT services, transition services to cloud solutions as well as new business models and innovation projects in the Internet of Things (IoT). T-Systems is also an accredited AWS Managed Service Provider (MSP) and Premier Consulting Partner with more than 500 experts on AWS with a growing list of competencies that include cloud migration, SAP system integration and consultancy support with the AWS Well-Architected Framework.

Moreover, T-Systems is an official AWS Direct Connect delivery partner, which means it is in the position to handle hosted-connections.

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