

Customer name

hhpberlin Ingenieure für Brandschutz GmbH

Business

Fire protection simulations and services

The Challenge

Fast and secure connectivity to cloud services

The Colt Solution

Dedicated Cloud Access

The Cloud Solution

Microsoft Azure

Fire in the cloud

hhpberlin is a globally acclaimed engineering firm offering fire protection services. Their challenge was to offer secure, complex fire simulations in the cloud without using the public internet. The solution was to use Colt's Dedicated Cloud Access service to connect them to one of the largest public cloud offerings, Microsoft Azure.

In May of 1842, the Great Fire of Hamburg raged across the city. The flames destroyed homes, cathedrals, and warehouses. The fire laid waste to several districts within the old city limits. Since then, much has changed with respect to fire protection and building codes. hhpberlin ensures compliance with current regulations as one of Europe's most successful fire protection companies.

Fire protection as a business model

For most people, when they think of fire, they think about how we fight it. They hear the scream of sirens, see fire fighters rushing in to save lives. In other words, they imagine what happens after a fire has already broken out. At hhpberlin, experts consider the moment a fire ignites and what happens during its progression.

How do the flames burn through wood or other materials? How does smoke spread through a building?

hhpberlin knows how fires spread and uses this expertise to assist architects and planners. The company recommends locations for sprinklers and fire extinguishers and offers tips for planning escape routes. Demand for these services is high due to strict modern building regulations. The goal is, in the event a fire does break out, to keep the number of people harmed to a minimum. hhpberlin was founded in 2000 with 10 employees. Today, the company leads the European fire protection market and employs a staff of over 180 people, most of them highly specialized engineers. The company is growing rapidly.

hhpberlin CEO Stefan Truthaen is convinced that this growth was made possible by collaborating with Colt and Microsoft. "We're strong believers in technology as an important production factor. We have invested a lot of money, and we can offer our engineers the best digital workstations available. That allows us to see more ideas through and manage more projects to serve more customers." The digital infrastructure connects all employees with headquarters in

Berlin, no matter what part of the globe they live in or work from. That changed the company's business model. "Thanks to the connection from Colt to Microsoft's Azure Cloud, it's simpler to export our knowledge. And this is only the beginning of fire protection as a knowledge-based business."

Five weeks of compute time for a 15-minute simulation

hhpberlin has developed a cloud platform based on an existing open source solution. It is used to simulate fires. The results of the calculations are so detailed and comprehensive that a 15-minute simulation can require up to five weeks of development time. The hhpberlin datacentre was not able to run multiple simulations at once. There was often insufficient time if a customer required multiple simulations — which most of them do. That's why hhpberlin decided to tap into cloud-based resources and use Microsoft Azure. But choosing a cloud provider was just the first step. An additional challenge was obtaining dedicated access to the cloud without using the public internet. "hhpberlin recognized that Azure is an exceptional fit for what the company needs, which is enormous processing power on demand." But hhpberlin also

“We’re very pleased with the customer service, infrastructure, and expertise of Colt, and we’re moving our entire organizational structure to the cloud. Dedicated Cloud Access is the last piece of the puzzle and has enabled us to move completely off-premise.”

Stefan Truthaen,
CEO, hhpberlin

recognized that the necessary performance and reliability couldn’t be achieved over the Internet,” said Colt’s product expert for Cloud Connectivity Mike South. The solution? A dedicated link to the cloud. Colt offers its Dedicated Cloud Access with a large number of connectivity options. Ethernet point-to-point, Ethernet hub-and-spoke, or IP VPN. Colt also provides managed router solutions for point-to-point links in the cloud over the network layer. Colt can even provide On Demand services to deliver real time connectivity to Azure, including bandwidth flexing, through a customer self-service portal.

Enabling new capabilities and new markets

Colt has worked with hhpberlin for some time now supporting their European operations. The addition of Colt’s Dedicated Cloud Access product enabled hhpberlin to migrate its entire technology hub to Microsoft Global Foundation Services — in other words, into the Azure Cloud, opening up new capabilities and a new market.

According to Truthaen, hhpberlin can now run its simulations in the cloud. “We perform the field simulations in Microsoft datacentres and deliver the results to our clients using Azure services. Based on these results, our engineers then make decisions and recommendations. It’s faster. It’s smarter. The quality is better. Really, it’s a completely new way of working.” One of the biggest benefits of switching from an on-premises solution to Azure and Dedicated Cloud Access from Colt is the ability to run simulations concurrently. And the additional processing power also makes the simulations better. “The Microsoft cloud helps us create more complex simulations and make better, smarter decisions,” says Truthaen. In addition, processing power can now be scaled up dramatically. That impacts the products and services that hhpberlin offers. Because when the number of simulations can

increase exponentially, so can the number of customers.

The collaboration with Colt and Microsoft Azure has opened the door to a new market for hhpberlin. Now, the company’s solutions can be licensed to third parties. Simulations from Berlin can be used to build a skyscraper in Malaysia or a train station in Russia. The US Forest Service could even use the hhpberlin solution to simulate the spread of forest fires. As Truthaen puts it, “Azure has democratized our simulation tool. Now, any fire safety engineer can use our tool directly, without a knowledge of computer science. That expands the market dramatically.” He’s also pleased about the cost benefits. His company no longer needs to invest in expensive hardware and has been able to react to customer requests with greater flexibility while expanding its service offerings. Customers choose the level of simulation they want to run and how fast they want to run it, depending on their budgets.

Walking into a fire with a VR headset on

For hhpberlin, the sky’s the limit now when you consider what the clouds up there have made possible. Truthaen is very optimistic about the future. He’s thinking about analysing and comparing multiple simulations with Azure Machine Learning. He hopes to detect bottlenecks and opportunities to enhance services. His dream is a global platform that any customer and or firefighter can log into from any device to upload the CAD model of the building they require a simulation for. He can foresee a day when customers put on a Microsoft HoloLens and walk through the fire in 3D on-site. He says, “Thanks to the infrastructure from Colt and the technology from Microsoft, we now have access to a global cloud that can scale with our ideas. That’s why we’re moving our entire organizational structure to the cloud.”

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