NTT DATA

Germany | Manufacturing

Knorr-Bremse drives digitization with managed SD-WAN

Client profile

Knorr-Bremse is the world's leading manufacturer of braking and other systems for rail and commercial vehicles. With 29,500 employees across 100 locations in more than 30 countries, the company is committed to driving safety and energy efficiency in rail and road transportation.

Which technologies?

• Managed SD-WAN

Which services?

• Project planning and implementation

Which partners?

• HPE Aruba Networking

KNORR-BREMSE

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SD-WAN guarantees us high-speed and robust connectivity, as well as fast, reliable and secure access to cloud services and data centers. With this, we've been able to accelerate our digital transformation and create the foundation for further intelligent services that support our employees and help our customers.

Tino Gieslor, Global Network Manager at Knorr-Bremse

Summary

Knorr-Bremse's digitization strategy includes the widespread adoption of Microsoft 365 and Teams, as well as the migration of key applications to the cloud. That's why they needed a modern network delivering high availability and bandwidth, and which can adapt quickly to evolving business needs. Working together we designed and implemented a managed SD-WAN solution over six months reaching 114 sites across the world. This provides significantly higher bandwidths and more stable connections and allows them to prioritize business-critical traffic while using direct access to the cloud to reduce the pressure on the core network.

Business need

Creating a network to support a data-driven future

As part of their digital transformation strategy, Knorr-Bremse accelerated their move to cloud services such as Microsoft 365 and Teams, elligent, data-driven service offerings to their products. This strategy significantly changed the demands on their network infrastructure. This strategy significantly changed the demands on their network infrastructure.

With growing demand for bandwidth and stable connections, they needed to ensure that bottlenecks, disruptions or outages wouldn't hamper global collaboration and jeopardize the development of new business models. They required an agile, highly available and high-speed network. This network needed to enable the rapid deployment of additional capacity and prioritization of data traffic from business-critical applications and real-time services. It also needed to provide employees with direct cloud access over the WAN backbone while connecting on-premises data centers to the Azure Cloud without the expenses that ExpressRoute would require.

Flexibility was critical for Knorr-Bremse because each of their sites had very different requirements. Depending on whether it's a manufacturing or development site, or purely an office location, SAP availability, connection to central data hubs, or access to cloud services could be key focuses. The existing network infrastructure with MPLS connections couldn't provide the desired flexibility and would have required additional investment in further systems for WAN acceleration. Therefore, Knorr-Bremse were looking for alternatives. The goal was to build a robust, high-speed network that ensured fast and reliable access to data centers, the internet, and private and public clouds, supporting an efficient business, digitally driven production and connected collaboration. At the same time, the new solution needed to deliver higher performance and reliability without incurring higher costs, while reducing the complexity of the network infrastructure.

Solution

Connecting 114 sites in just six months

After an exhaustive evaluation process, they decided to implement our managed SD-WAN solution.

The managed SD-WAN enables them to manage and orchestrate different types of network connections by decoupling control functions from the physical infrastructure. They're able to assign connections that meet their bandwidth and latency needs while guaranteeing performance levels in real-time. All connections are optimally utilized and, in the event of bottlenecks or disruptions, traffic is routed to the best possible connection. This enables them to improve the quality of service and resiliency and optimize costs.

To meet Knorr-Bremse's budget and timeline requirements and to minimize the impact on business operations the new lines and the SD-WAN needed to be implemented, while simultaneously decommissioning the legacy infrastructure. The implementation was carried out in parallel across their Asia, EMEA, and America regions working in close cooperation with Knorr-Bremse's project teams. Within four months, 85% of their 114 sites were fully migrated, with the remaining sites migrated in the following two months. Despite some challenges, the new technology worked right away; not a single line needed to be touched twice.

The key to this was the close cooperation between the Knorr-Bremse and NTT teams. Although each site used different firewalls, switches and other network hardware, and in some cases had individual routing requirements, the installation and setup of the SDWAN went quickly, thanks to the technical preparation plan.

In the face of technical or organizational hurdles, we were able to identify options for action and offer new solutions, engaging in coordination with the authorities or organizing changes of providers.

The project installed a total of 134 access lines and 224 SD-WAN devices across the 114 sites.

Outcomes

Creating a new data highway between sites, data centers and the cloud

By moving to a managed SD-WAN solution, Knorr-Bremse has been able to accelerate the widespread adoption of Microsoft 365 and Teams, as well as their ongoing cloud migration. In addition, they created the foundation for a stronger interconnection between their production and development environments. The SD-WAN provides them with the required bandwidth and allows agile responses to new business demands. Built-in encryption also provides high security without sacrificing performance.

Optimizing infrastructure and budgets

By enabling access to cloud applications from anywhere, Knorr-Bremse have been able to reduce the load on their core network. By replacing their existing WAN acceleration infrastructure they've simplified their network architecture. In addition, the managed SD-WAN has optimized the use of their network connections and allowed them to better cater for peak loads. These have allowed them to increase available bandwidth increased by 330% while reducing the cost per megabit by 32%.

Improved quality of service

The high bandwidth and robust connections ensure that their employees can reliably exchange information via cloud-based communication and collaboration tools and have seamless access to their applications wherever they're located. This has increased both productivity and the employee experience.They've also seen a reduction in the number of support requests due to poor or failed connections, relieving the pressure on the IT department.

Accelerated deployment of new sites and lines

By decoupling software and hardware, the SD-WAN makes it easy for Knorr-Bremse to integrate and use new lines. This enables them to integrate new sites with ease as well as commission additional connections when a site requires higher bandwidths or a backup connection.

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> As an international company, we rely on seamless communication and collaboration between our global teams. These services, as well as application modernization, digital production and the development of new business models, require flexible and stable network connections. The move to a managed SD-WAN was an obvious decision for us.
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> **Tino Gieslor**, Global Network Manager at Knorr-Bremse

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