

# Greif creates a modern network with Citrix SD-WAN

Packaging manufacturer transforms the virtual desktop experience

## Creating a modern network to ensure the best virtual desktop experience

Greif, a global leader in industrial packaging and services, was founded in 1877 and operates nearly 300 locations in more than 40 countries around the world. Greif produces steel, plastic and fiber drums, intermediate bulk containers, reconditioned containers, flexible products, containerboard, uncoated recycled paperboard, coated recycled paperboard, tubes and cores and a diverse mix of specialty products. The company also manufactures packaging accessories and provides filling, packaging and other services for a wide range of industries. Greif generates \$4.6 billion in annual sales and has 17,000 employees. Maintaining global leadership in industrial manufacturing has required a dedication to excellent customer service.

Due to the nature of its business, it is critical for their manufacturing sites be strategically located in close proximity to their customers. To support their vast and distributed operational footprint across EMEA and APAC regions, a network transformation was critical to maintaining an exceptional level of customer service.

First, Luc De Smet, Supervisor of Infrastructure, Virtual Apps/Desktops (EMEA/APAC) consolidated and virtualized their applications and data in the European data centers with Citrix Virtual Apps and Desktops. But they knew they also had to modernize their network to be able to provide their users with a consistent and high-quality virtual application experience.

They had two connections from the remote offices to their data centers with MPLS as the primary link and internet (VPN tunnel) as the secondary link in case the MPLS experienced an outage. The branches also had internet connections that were used for local breakout. The high-speed internet links were not being used at all to carry the Citrix traffic.



### Industry

Manufacturing

### Location

Ireland

### Citrix products

- Citrix VSD-WAN
- Citrix Virtual Apps and Desktops

### Key Benefits

- Centralized management allows Greif to seamlessly add, configure and provision Citrix SD-WAN appliances, sites and connections. This expedites rollout in large geographies
- With Zero Touch Deployment (ZTD), Greif can provision SD-WAN appliances remotely with just an internet connection
- Citrix SD-WAN delivers unique features for prioritization of HDX traffic streams and HDX fair sharing of session bandwidth over the WAN, as well as HDX session monitoring and reporting

Silvio Haesevoets, Network Engineer, says, “MPLS is a rather expensive network solution, and we’re seeing that most of our locations in Europe definitely were having an internet connection which was high capacity and reliable and most of the time not being used.” Continues Haesevoets, “it was only being used for local internet breakout. As most of our services and applications are centralized in our data center, having high performance for applications would definitely benefit the user experience.” It was critical the network had sufficient bandwidth to ensure the best performance of Citrix Virtual Apps and Desktops between the remote locations and the data centers.

With regards to their network, the EMEA and APAC regions’ choice of Citrix SD-WAN mirrored that of the U.S., where Citrix SD-WAN has been employed since 2016 and where the rollouts are also continuing, led by their U.S. counterparts, Cesar Aguilar and Jason Cornelius.

Haesevoets states that, “this will allow them to bond their links and aggregate all of their bandwidth ensuring the best user experience for virtual desktops on thin clients, PCs and laptops.”

Greif is also running Office 365 applications on Citrix as part of the Citrix Virtual Apps and Desktops in their EMEA data centers. Citrix Virtual Apps and Desktops utilizes the Citrix HDX technology stack which includes optimizations based on the ICA protocol that no competing SD-WAN vendor has access to. As a result, Citrix SD-WAN delivers unique features for prioritization of HDX traffic streams and HDX fair sharing of session bandwidth over the WAN, as well as HDX session monitoring and reporting.

### **Simplifying the workflow eases deployment and management of SD-WAN**

Haesevoets says, “the Citrix SD-WAN orchestration service’s configuration editor allows us to make changes to the network before pushing updates to change management.” The centralized management tool allows Greif to seamlessly add, configure and provision Citrix SD-WAN appliances, sites and connections.

With Zero Touch Deployment (ZTD), Haesevoets can provision SD-WAN appliances remotely with just an internet connection. By centralizing the deployment process, he can expedite rollout in large geographies and reduce the burden of having to travel to various locations just to setup the SD-WAN.

The reporting dashboard capabilities of the Citrix SD-WAN orchestration service will also give Haesevoets the ability to proactively monitor the health of the network links and tunnels as well as HDX traffic and users.

**“Citrix SD-WAN will allow us to bond our links and aggregate all of their bandwidth ensuring the best user experience for virtual desktops on thin clients, PCs and laptops.”**

**Silvio Haesevoets  
Network Engineer  
Greif**

## Superior time to failover and failover method

Before implementing Citrix SD-WAN, the MPLS was quite stable, but they had periodic outages that impacted internet VPN access. They created a process whereby switches checked periodically for outages by IP SLA tracking and addressed when there were too many timeouts. The process took 30-45 seconds which resulted in a noticeable interruption and froze users' virtual desktop sessions. The clients would try to reconnect and, in some cases, would be completely disconnected from the network. "Now," says Haesevoets, "with SD-WAN, both links are used together to provide sufficient bandwidth and, if the MPLS link fails, the SD-WAN virtual path keeps users connected because both links are active and that improves the user experience."

In the future, Greif will use SD-WAN to evaluate bandwidth usage and plans to downsize their MPLS lines to further save on expenses. Since SD-WAN has helped Greif transform and modernize their network to deliver a more reliable application experience, they can continue to take full advantage of the best Citrix Virtual Apps and Desktops experience now and in the future.

**"Now, with SD-WAN, both links are used together to provide sufficient bandwidth and, if the MPLS link fails, the SD-WAN virtual path keeps users connected because both links are active and that improves the user experience."**

**Silvio Haesevoets**  
Network Engineer  
Greif

### Enterprise Sales

North America | 800-424-8749

Worldwide | +1 408-790-8000

### Locations

Corporate Headquarters | 851 Cypress Creek Road, Fort Lauderdale, FL 33309, United States

Silicon Valley | 4988 Great America Parkway, Santa Clara, CA 95054, United States

©2020 Citrix Systems, Inc. All rights reserved. Citrix, the Citrix logo, and other marks appearing herein are property of Citrix Systems, Inc. and/or one or more of its subsidiaries, and may be registered with the U.S. Patent and Trademark Office and in other countries. All other marks are the property of their respective owner(s).

