



Geoscience leader optimizes network efficiency, boosts application performance with unified global SD-WAN

CGG drives higher productivity, maximizing end-user quality of experience with Unity EdgeConnect SD-WAN edge platform

CGG deploys ultramodern geoscience technology to deliver stunning and highly precise 3D images of the Earth's subsurface to its oil and gas company clients. These seismic images contain huge volumes of information, and can be used with well log and other geoscience data to build geological interpretations that guide exploration and production (E&P) decisions.

CGG therefore requires a robust global network to transfer the petabytes of geoscience data mobilized to deliver these final images and interpretations to

its clients. Historically, the company had a conventional hub-and-spoke network architecture with a combination of MPLS circuits and point-to-point links between global data centers and business locations. CGG also employed VPNs to enable branch offices to access data centers over the internet.

To increase the efficiency of remote access to applications and images, CGG had been using a WAN optimization product for more than ten years, which was due to be replaced. This allowed the perfect opportunity for CGG to start exploring SD-WAN.



UP TO 90% TRAFFIC REDUCTION



80%+ FASTER DATA REPLICATION



\$1M/YR COST SAVINGS

Douglas Northrup, Global Network Group manager for CGG, explains: “We had MPLS, point-to-point and internet VPNs, all separately routed and managed. Our WAN Op was end-of-life, and since we had to replace it anyway, we decided to look into what SD-WAN could do to help us use all our available bandwidth more efficiently.”



Because back-office data is optimized so much with Boost, we can handle more seismic data on the network, which improves the user experience. As soon as we applied Boost, we saw some replication times decrease 80 percent or more.”

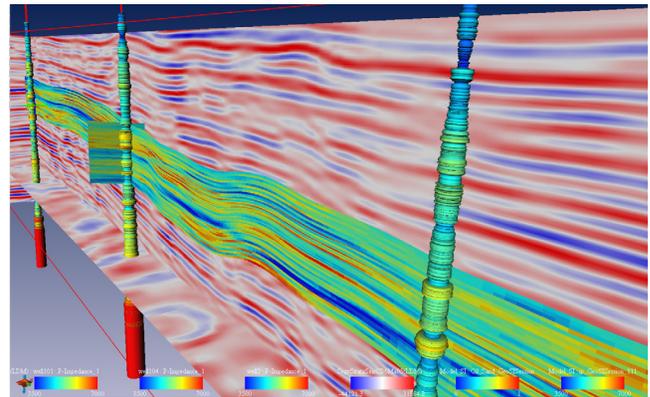
— Douglas Northrup, Manager, Global Network Group, CGG

Improved network agility and efficiency

CGG brought in a variety of SD-WAN vendors, including those who historically offered WAN optimization. Very quickly, Silver Peak stood out from the crowd.

“Silver Peak answered our questions in a different way,” Northrup says. “Other vendors approached us with ‘here is what we have and here is how you can use it.’ Silver Peak differentiated itself by saying: ‘here is what we have, now what do you want to achieve?’ CGG has some excellent network architects and engineers, so we appreciated how Silver Peak worked with us to understand the technical requirements of our business, and then jointly come up with a solution for migrating to SD-WAN.”

Today, CGG has deployed the Silver Peak [Unity EdgeConnect™](#) SD-WAN edge platform across 35 locations, including four regional hubs, 10 global data centers, and various business offices and warehouses. When the rollout is complete, the SD-WAN will include all of the 50-plus sites in CGG’s network, about 80 percent of which will include EdgeConnect in redundant high-availability deployments.



In the main CGG sites—corporate headquarters and three regional data hubs—the EdgeConnect appliances are terminated with MPLS circuits and dual internet circuits. At all other locations, MPLS has been replaced with a mix of broadband, DSL, or commercial internet depending on availability, most with dual links at each site.

In addition to improving network agility and utilization efficiency with EdgeConnect, Northrup notes that eliminating MPLS at all but a handful of sites saves the company substantial costs per annum.

In the near future, CGG plans to service chain EdgeConnect to Zscaler cloud-delivered security services. This will further consolidate the edge, while providing efficient, secure local breakout to the internet and SaaS applications like Microsoft Office 365.

Northrup remarks: “We are decommissioning our WAN routers by leveraging the unified routing interoperability in EdgeConnect. Directing traffic through EdgeConnect to Zscaler will also reduce the need for the separate edge firewalls we currently have in place. That will give us an even smaller footprint, further reducing management time and cost. Plus, we will be able to improve our network visibility beyond that of the firewalls alone.”

Optimizing application traffic with Boost

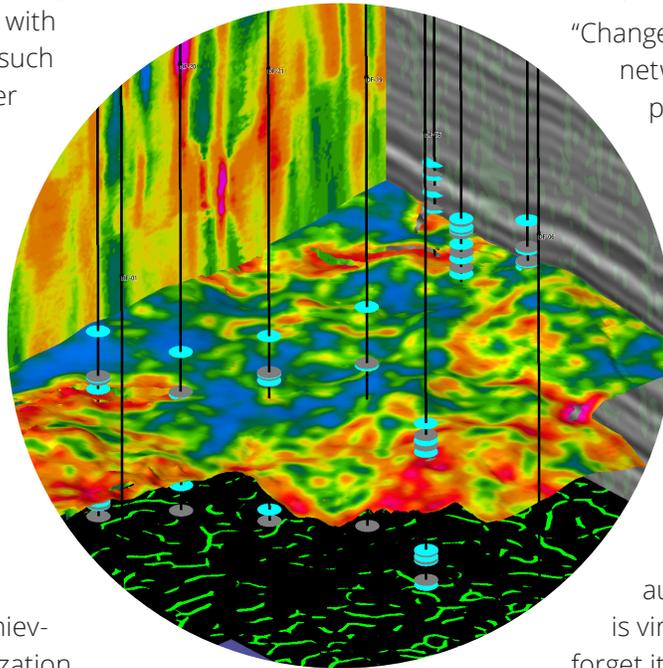
Through the [Unity Orchestrator™](#) management interface, the CGG team defined business intent overlays for various classes of applications so that each application is assured the network resources and priority it requires. For example, voice and video are classified as “High-Quality/Real-Time” to ensure they traverse the best available link with the highest priority at all times. HTTPS traffic and visualization applications are classified as “High-Quality/Critical.” Workloads with high-bandwidth demands, such as data replication and other file copy services, are classified as “High-Efficiency.” All other applications fall into the default overlay.

To accelerate applications, CGG configured the EdgeConnect SD-WAN edge platform with optional [Unity Boost™](#) WAN optimization to accelerate applications classified as High-Quality/Critical and High-Efficiency. Boost is achieving up to 90 percent optimization through data deduplication and compression, dramatically reducing data traversing the SD-WAN. This frees up more bandwidth for critical seismic data used in the 3D images that customers rely upon to guide E&P decisions.

“Because back-office data is optimized so much with Boost, we are able to handle more seismic data on the network, which improves the user experience,” Northrup points out. “Replicating a large data file from one site to another could take five days in the past, whereas now it only takes one day. As soon as we applied Boost, we saw some replication times decrease by 80 percent or more.”

Simplifies management, improves productivity

The Global Network team also benefits from simplified management as a direct result of reducing network complexity and having centralized, automated control with Orchestrator. By creating templates in Orchestrator, the team has been able to standardize configurations on all the EdgeConnect appliances, easily pushing out updates across the network in a single step instead of managing individual routers as was done previously in the past.



“Change controls for the wide area network went down by 76 percent after deploying the EdgeConnect platform,” Northrup reports. “Before, we had multiple moves, additions or changes per week on the WAN routers, which increases the risk should something go wrong. Now, we have very few changes, and managing them in Orchestrator is straightforward. It is templated, auditable, and assured. It is virtually a case of set it and forget it, which frees up time for the team to focus on projects that are more

important. We have reduced our exposure to risk and time spent troubleshooting, plus our productivity has benefited hugely as a result.”

Northrup concludes, “I now do not have to be so concerned about where application traffic is going, or how bandwidth is being utilized, as it is all identified and controlled through the EdgeConnect platform and made visible by Orchestrator.”

For more information on Silver Peak and our solutions, please visit: silver-peak.com

Customer

CGG is a global geoscience technology leader. Employing around 4,600 people worldwide, CGG provides a comprehensive range of data, products, services and equipment that supports the discovery and responsible management of the Earth's natural resources.

Challenge

CGG had a complex mix of MPLS, point-to-point and VPN network technologies, all separately routed and managed. The company also had an end-of-life WAN optimization product requiring immediate replacement. CGG needed a new solution that provided WAN optimization on par with or superior to its legacy product to enable its global workforce to share huge data files. The company also wanted to reduce complexity and maximize use of its available bandwidth.

Solution

CGG deployed the Unity EdgeConnect platform across 35 of its global locations, including headquarters, regional hubs, multiple data centers, and various business offices and warehouses. While MPLS circuits provide connectivity to its regional hubs, all other sites use a mix of commercial internet links, broadband or DSL, most

with dual links, all bonded to utilize all available bandwidth simultaneously. CGG also configured the EdgeConnect SD-WAN edge platform with optional Unity Boost WAN optimization as part of a complete, unified solution. The global SD-WAN is managed centrally with Unity Orchestrator.

Results

- > Reduces network complexity while increasing agility, efficiency and utilization
- > Prioritizes applications with optimal network resources aligned with the business need
- > Reduces network traffic by up to 90 percent, accelerating applications
- > Simplifies the edge by decommissioning WAN routers, reducing network management time and cost
- > Accelerates large data replications from five days to one day, improving end-user quality of experience
- > Simplifies network administration, reducing WAN change controls by 76 percent
- > Significantly reduces network costs
- > Reduces network troubleshooting time while increasing IT productivity



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