OpenEye Scientific

SteelConnect SD-WAN lets OpenEye quickly expand its network while connecting team members to its cloud-based drug design platform in minutes, compared to months required previously. SteelConnect also provides the scalability needed to expand SaaS offerings.

Company description

OpenEye Scientific is a privately held company headquartered in Santa Fe, NM, with offices in Boston, Cologne, and Tokyo. It was founded in 1997 to develop large-scale molecular modeling applications and toolkits that are primarily used for drug discovery and design, reducing time to market for new pharmaceuticals.

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Craig Bruce
Scientific Software Developer, OpenEye

In Brief

Challenges

Popularity of cloud-based drug design platform demanded faster network connections for users

Scaling up with networking hardware was cost-prohibitive and could not keep pace with popularity of SaaS offerings

Solution

A state-of-the-art SD-WAN solution provided by Riverbed® SteelConnect™ for Amazon Web Services

Benefits

Business and IT agility:

- New network connections take minutes vs. months previously
- Easily expand AWS footprint
- Ability to scale up network connections without hardware limitations
- No need for external technical resource
- Simple billing for SteelConnect through AWS

Cloud-based drug design platforms require fast, easy network connections

OpenEye's software is used by computational chemists, medicinal chemists, and synthetic chemists for early stage drug discovery. Drug discovery is a long and expensive process, requiring 10 to 15 years and $1 to $2 billion per drug. "And most of the time, the process is unsuccessful," explains Craig Bruce, a scientific software developer at OpenEye. "There's a lot of push to make the process more efficient and to fail fast. Our software helps you understand in the first few years if you're going in the right direction."

During most of its 20-year history, OpenEye sold its technology in the form of software development toolkits (SDKs) for developers and licensed applications for scientists. Recently, however, the company has begun offering more in the form of software as a service (SaaS). For example, OpenEye recently released a cloud-native drug design platform called Orion that resides on Amazon Web Services (AWS). Orion uses AWS to deliver easy, scalable, maintenance-free access to hundreds, thousands, or even tens of thousands of processors, unlimited storage, and archiving via reliable networks, all backed up by world-class data security.

Today OpenEye is using SteelConnect internally for its team members. The positive response to Orion from the global biopharmaceutical community presented OpenEye's IT team with the challenge of how to quickly and affordably connect its customers to the platform in the future, and SteelConnect can also be used for that. "Orion was always going to be a 100% cloud-native solution using AWS. So, as we started developing Orion, it became very clear that we were going to need good connectivity to it, in a very restrictive and controlled fashion."

Connecting customers to Orion via the company's own Cisco-based network was cost-prohibitive. "Our current hardware just would not support this," says Bruce. "We would have needed to buy a lot more hardware for a rather large price, and scalability would have been incredibly costly and difficult." That approach was also too slow. "We don't have an internal Cisco resource here at OpenEye, so it was taking weeks' to months' worth of work to get network connectivity set up."

Bruce investigated whether he could achieve what he wanted using AWS Direct Connect, which would provide a private connection between OpenEye's network and AWS, but decided that wasn't a great fit. "Partly, that was because we would have needed a partner to do the last mile," he explains. That's when he started looking into software-defined networking (SDN). "SDN seemed much more appealing in that we could buy a smaller amount of hardware. Also, the SDN approach would be the obvious way to allow us to scale up quickly."

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Network connections in minutes with SteelConnect for AWS

"SteelConnect's tight integration with AWS was very appealing," Bruce says. "It would let us connect multiple accounts very easily because SteelConnect has a full understanding of our network topology."

OpenEye takes advantage of AWS virtual private clouds (VPCs) as a way to provide isolation at the network level and ensure the security of drug companies' data. SteelConnect supplies the internal backbone connection between all of the VPCs OpenEye runs in AWS and provides a consistent and secure connection anywhere in the world. OpenEye started by deploying SteelConnect in one AWS region and is now planning to expand it to others.

"We installed the first instance of SteelConnect in our VPC in less than an hour," Bruce notes.

"I don't need to contact anyone external to help me. Between my system administrator and myself, we can enable a new VPC and the virtual private network (VPN) connection in less than an hour. The most complicated part is the subnet definition. The connection itself is just a few clicks."

"The ability to enable a new connection so quickly, instead of the weeks or months it took in the past, is really important for the success of our SaaS offerings," Bruce continues. "Also, as a company, we will be able to grow quickly since we have the ability to add more and more connections without hardware limits or other technical frustrations. SteelConnect enables us to be far more agile, which is really good for our growing business."

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Bruce also values the fact that SteelConnect provides an easy way for him to monitor all of those connections. "There's a Web portal we log into where we can see all of our SteelConnect devices, either the end VPCs, or on-premises, all in a single pane. This has been really useful for our ongoing development."

There's one additional way that SteelConnect simplifies his life. "Our SteelConnect comes through the AWS marketplace. It's really easy, just a pay-as-you-go hourly fee, which comes through our regular AWS billing. There's no new bill for the company to deal with."

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For OpenEye's SaaS customers, SteelConnect represents one more way that OpenEye is working to help them to develop drugs more quickly. "Our SaaS solutions, supported by SteelConnect, save our customers both time and money and ultimately will enable them to get drugs to market sooner," Bruce concludes.

About Riverbed

Riverbed enables organizations to modernize their networks and applications with industry-leading SD-WAN, application acceleration, and visibility solutions. Riverbed's platform allows enterprises to transform application and cloud performance into a competitive advantage by maximizing employee productivity and leveraging IT to create new forms of operational agility. At more than $1 billion in annual revenue, Riverbed's 28,000+ customers include 97% of the *Fortune* 100 and 98% of the *Forbes* Global 100. Learn more at riverbed.com.