The company wanted to replace MPLS and retire legacy routers, adopting all broadband SD-WAN to run VoIP, ERP, SaaS and other critical applications with assured quality, performance and availability.
From its founding in 1866, Barrett Steel has grown to become the UK’s largest independent steel stockholder. In Barrett Steel’s business, the vast majority of sales are transacted over the phone, making the company’s voice over IP (VoIP) system mission-critical.

As Sam Ainscow, the company’s head of IT operations and chief information security officer, puts it, “The crown jewel in IT operations is our voice system, which must always perform and be available.” However, if the company’s MPLS circuit failed over to the backup internet link, VoIP calls weren’t stable and could even drop, creating a negative customer experience.

**BRINGING NETWORK CONTROL IN-HOUSE**

While MPLS downtime was bad enough, support from Barrett Steel’s managed MPLS provider was also poor—and expensive. Fed up with being at the mercy of an outside provider, Ainscow and his team decided to bring network control in-house, and began researching SD-WAN.

“We decided that SD-WAN would allow us to be masters of our own destiny,” Ainscow says. “We wanted to introduce carrier diversity by moving away from MPLS to broadband and ultimately drive down cost for the business. That, and massively improve service quality and agility.”

**CENTRALISED ORCHESTRATION GIVES ARUBA THE EDGE**

The Barrett Steel team evaluated several SD-WAN vendors, narrowing the choice to Aruba (formerly Silver Peak) and Citrix. What ultimately gave Aruba the edge over Citrix was the ease of centralised management with the Aruba Orchestrator management console.

Ainscow explains, “IT is a fabled single-pane-of-glass world, but Orchestrator really gives you that one place to do everything on the SD-WAN.”

According to Ainscow, the Aruba EdgeConnect SD-WAN edge platform also stood out for its technical capabilities such as path conditioning, quality of service, and dynamic path control, which could assure performance, uptime, and quality for the company’s critical VoIP system.

**REQUIREMENTS**

- Assure stable high-quality voice calls, critical to sales transactions
- Provide independence for managing the network
- Support carrier diversity for more resilience and cost leverage
- Deliver network service reliability and agility

**SOLUTION**

- Aruba EdgeConnect SD-WAN edge platform
- Aruba Unity-Orchestrator centralised management console

**OUTCOMES**

- Improves quality of experience for employees accessing centralised business applications and SaaS
- Lowers costs 25 per cent by reducing dependence on MPLS
- Ensures high quality of service and reliability for critical VoIP system
- Supports higher productivity and more responsive service to customers
- Accelerates time to bring up newly acquired sites from months to hours
- Assures network uptime with sub-millisecond circuit failover
Once the SD-WAN is up and running with EdgeConnect and Orchestrator, it essentially manages itself.

SAM AINSCOW
Head of IT Operations and Chief Information Security Officer, Barrett Steel

ENTERPRISE-WIDE ROLLOUT IN ONE WEEK
Today, Barrett Steel has deployed the EdgeConnect platform at all of its 35 sites. After implementation at two test sites, Ainscow and his team completed the initial rollout in just one week – approximately 30 sites at that time. Recently acquired sites typically come online within a day.

“What made deploying EdgeConnect so easy were the templates,” Ainscow says. “At each site, all we had to do was plug in the EdgeConnect appliance and have someone back at the main office accept the new site and push the configuration template out through Orchestrator.”

All sites are terminated with dual links, and while some sites currently retain legacy MPLS circuits, all sites will be migrated to pure internet provisions. The circuits are bonded so all network resources can be used together simultaneously.

Optimizing WAN performance and efficiency
To ensure each type of application receives the network priority and quality of service required for the business,

Sam Ainscow's team created a set of business intent overlays using Orchestrator.

For example, voice is classified as “real-time” with high quality of service to give it top priority on the network. Other on-premises applications such as enterprise resource planning (ERP), or SaaS applications like Microsoft Office 365, are classified as “critical” and “bulk”, respectively.

Barrett Steel also takes advantage of the routing interoperability and stateful zone-based firewall within EdgeConnect to locally segment site-centric operational technology (OT) application traffic from business application traffic in the IT infrastructure. Branch routers have been retired.

Ainscow notes, “Eliminating the need for separate routers at the edge was a key requirement for rearchitecting our WAN. And using the firewall in EdgeConnect saves us from deploying lots of small firewalls at each site to keep our data network separate from process control systems.”

DELIVERS NETWORK EFFICIENCY AND BUSINESS AGILITY
As Barrett Steel continues to expand by acquiring new locations around the world, Ainscow and his team are able to have them quickly online and ready to do business. The deployment model is based on one of the company’s major acquisitions last year.

Ainscow explains, “We had acquired a site on the south coast of the UK with no broadband available. Putting in a new circuit would have taken 60 to 90 days. So, we got it up and running on four 4G LTE modems.”

He continues, “We had that site live by 10:30 in the morning on day one, able to run voice, network traffic, everything needed to have this multi-million-pound location in business and generating revenue. We now bring up all new sites this way until we can have a permanent circuit installed.”

SD-WAN ELEVATES QUALITY OF EXPERIENCE
For all of Barrett Steel, the Aruba EdgeConnect SD-WAN edge platform now ensures high quality of service for
critical voice communication, and a higher quality of experience for employees and customers engaged in business transactions.

Ainscow notes, “I haven’t had a single complaint about voice quality since moving to the SD-WAN. I just don’t have to worry about voice anymore.”

In addition to the deployment agility and assured quality of application services, Ainscow forecasts 25 percent cost savings by eliminating MPLS and moving connectivity over to DIA and broadband.

**Simplifying WAN management and control**
Ainscow and his team also achieved their other major objective of bringing WAN management in-house and simplifying it with Aruba Unity-Orchestrator.

“Even though we brought work in-house, we don’t have the same work effort that the managed provider had because so much is automated now,” he says. “If I had tried to do this with a traditional WAN architecture, I’d have had to hire two or three more people.”

Ainscow concludes, “Once the SD-WAN is up and running with EdgeConnect and Unity-Orchestrator, it essentially manages itself. That allows us to use our human talent much more efficiently.”