

Building a Remote Solution

Forest Rock needed real-time, secure visibility into sensors that monitor energy usage across hundreds of their customers' facilities... ZeroTier took out all the barriers.

“ZeroTier unlocked doors for what we were capable of as a company and for our own projects.”

Gareth Shirley, Forest Rock’s sales and operations manager

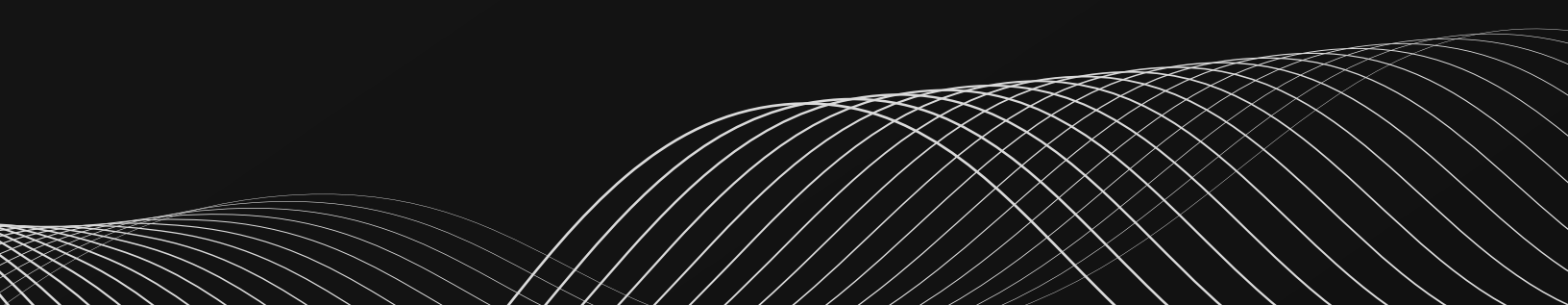
When you manage facilities remotely, you need visibility into what’s going on. When you don’t know what’s happening on-site, problems can get out of hand fast.

Forest Rock, a UK-based IoT solutions provider focused on smart buildings and building automation across Europe, encountered that problem too often. The company knew it had to do something – and, fortunately, ZeroTier made it possible.

Forest Rock develops software for building management systems. “Our solutions help customers better manage buildings and therefore reduce energy consumption and associated expenses,” explained Gareth Shirley, Forest Rock’s sales and operations manager.

To achieve that goal, Forest Rock supports hardware and software that controls, automates, monitors, and manages those buildings, as well as their cybersecurity and their energy usage.

The N4EM (N4 Energy Manager) uses machine learning to provide businesses with better control over their facilities to reduce costs and maximize revenue. This provides a way for the industrial and commercial clients they serve to know what’s going on in building operations, energy management systems, and other network-based services.



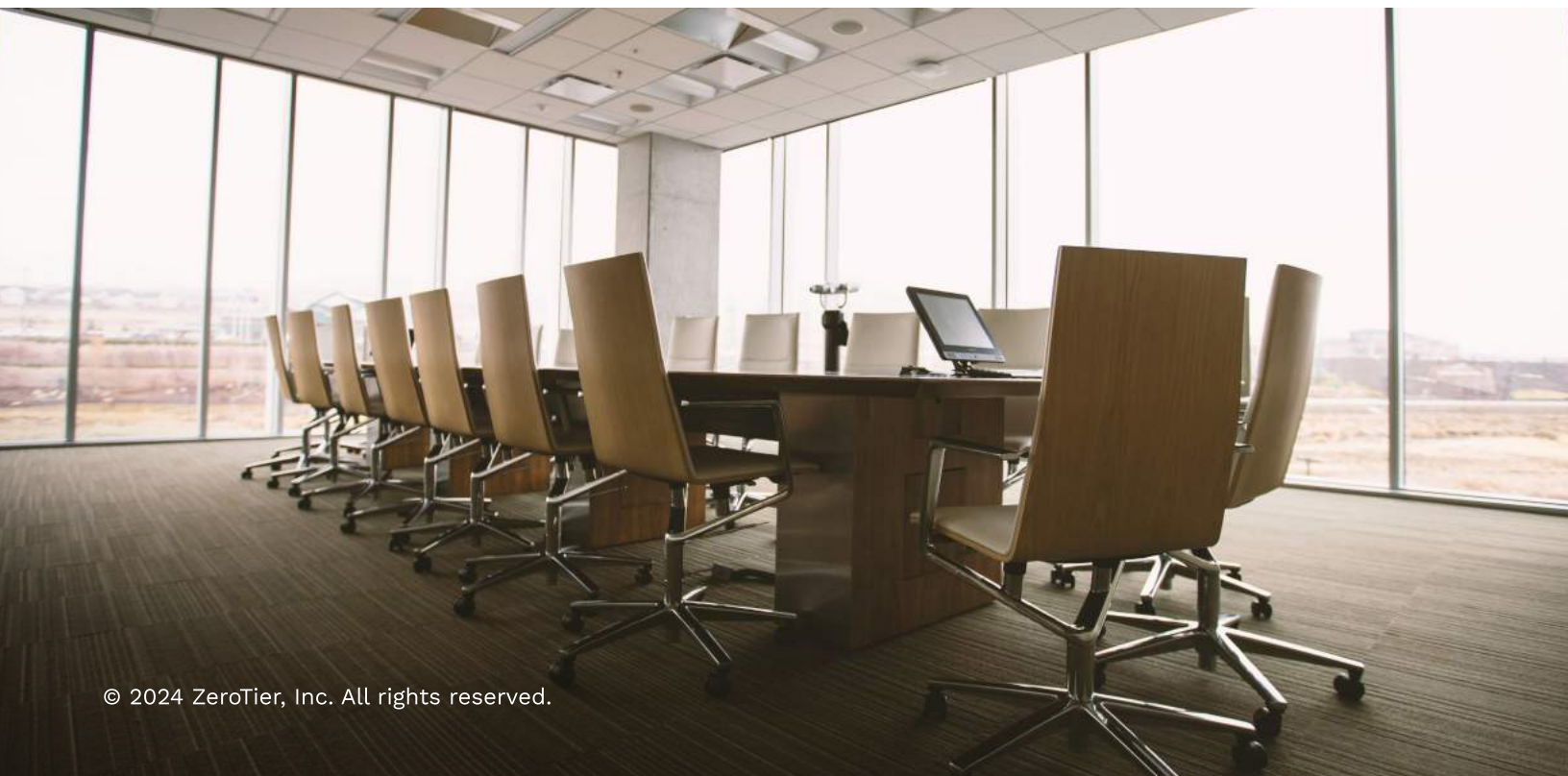
Visibility is everything

Forest Rock might install an energy management solution for a customer who wanted better control over a facility. They'd put in a panel and associated software, and give control to the managers, occupants, and the end users.

Everything works great, initially. But sometimes, things happen.

The environment can change, equipment may break, a critical alarm may trigger. Before using ZeroTier this would require a site visit to diagnose or an unsecured public IP to access remotely. With ZeroTier, Forest Rock can access the site and diagnose issues quickly and securely.

Gareth realized that Forest Rock needed to do something to minimize the frequency and cost of site visits. He wanted to connect virtually to the on-site equipment and control everything online, from system status to monitoring energy usage. "We need visibility as to what's going on inside the building," Gareth stressed. In his ideal vision, "ZeroTier would allow us greater control and access to sites across the world, easily and securely. This would give a greater saving in unnecessary travel time and expenses, simultaneously allowing us to support and troubleshoot with engineers on site, remotely."





Cracks in the system

Forest Rock first tried using public static IP addresses on SIM cards. They had to assume connectivity used 4G routers because an internet connection couldn't be counted on. "But if you use a public IP, anybody with an internet connection can find it. And anybody clever enough can hack into it," Gareth said.

Using VPNs wasn't feasible, either. Beyond the technical requirements (such as a client/server model), it requires experienced, trained people who understand how to set up, connect, and manage them – adding another employee to the team and complexity for the Forest Rock customer.

"We needed a VPN for our Supervisor Servers, some being mission critical, which didn't disconnect after a certain period of time. We needed something reliable and ZeroTier ticks all the boxes," said Gareth.

ZeroTier addressed all the technical issues – and the business concerns, too. Customers find the process easy to encompass.

"When the customer logs into their ZeroTier portal, they understand it. They don't need years of experience or knowledge with networking," Gareth said.

Not to mention, the ZeroTier pricing model is very attractive and cost efficient," Gareth added.

The cost savings became one of Forest Rock's selling points. "I'm thinking of one customer in particular. When I first reached out to them, they were using public IPs for a critical always-on application, and sending monitoring alarms on a 24-hour basis," Gareth recalled. "They told me they were spending £1000 + per site for initial setup with opex costs being drastically reduced."

When Forest Rock demonstrated what it could do instead, it was accompanied by a savings of £800. That closed the deal.

Getting their ducts in a row

Every Forest Rock customer is different, of course. Some customers have five sites, others have five hundred. A mesh network gives customer engineers secure, concurrent access to every site, so they can remotely log in as needed. And those needs vary: Maybe they need to check in daily, perhaps it's only monthly to ensure everything's running smoothly.

The end user can also log on to see their building's information – but only their own. Depending on the configuration, an apartment resident could check their temperature setting (remotely, if necessary), or the building manager might look up how much energy the building consumed in a particular month.

With ZeroTier at the heart of the building automation solution, Forest Rock has been able to improve customer service.

“Their people can log in and look at their building statistics from anywhere in the world, as long as they've got an internet connection,” Gareth pointed out.

And when things do go wrong... Previously, Forest Rock might have needed to send a technician on-site, and then identify the repair parts to acquire.

**“Our time to triage and resolve an issue might have been five days. It's now minutes,” Gareth said.
“Now, we can just load up a laptop, log in, diagnose.”**



A blueprint for success

Every technology partner wants a reason to cheer for the vendor relationship, but Forest Rock has had special reasons to appreciate the alliance. One is that ZeroTier has made the solution's information accessible and digestible.

Understandably, some of the Forest Rock prospective customers have questions about the solution's security. "We sometimes have to do a bit of extra work in convincing the end customers or other project stakeholders that this is the right solution, it's secure, it's functional, and it's going to work," said Gareth. To give them confidence, he's found it worthwhile to reference the technical security specifications on the ZeroTier website.

The documentation quality has allowed the team to explore and successfully execute secure advanced network routing methods. "We would discover that we could do more with ZeroTier than we initially expected," he said.

"We're able to do some fancy complex things with networking that we didn't know we could accomplish."

As Forest Rock worked with ZeroTier, it learned to appreciate the APIs. Gareth recommended that new ZeroTier customers examine the solution's benefits carefully, as they resolved some security and customer access concerns. He hadn't realized ZeroTier's full potential when he got started – and if he'd taken a little more time up front, he could have improved the software's network architecture earlier.

"ZeroTier unlocked doors for what we were capable of as a company and our own projects," Gareth said. "We wish we'd done it sooner."

For more information on Forest Rock visit www.forestrock.co.uk or contact sales@forestrock.co.uk.

Contact sales at sales@zerotier.com

ZeroTier is a secure network overlay that allows you to manage all of your network resources as if they were on the same LAN. The software-defined solution can be deployed in minutes from anywhere and empowers your team to create global private networks that connect your devices directly to each other, no matter where they are in the world.

