

## IT Site Requirements for Formic Install

Our systems are all delivered with a linux PC, camera, and VPN router. The VPN router in particular is necessary for proper troubleshooting, monitoring, and maintenance of the system.



This is a StrideLinx VPN router (AN: SE-SL3011-WF), which is intended to allow us at Formic to remotely connect to the system being installed at your company. This also comes paired with an antenna (seen below).



### Customer Hardware Requirements

In order for Formic to connect to the internet, pass billing information out, and actively support systems deployed, we require an Ethernet connection with internet access. This Ethernet drop is expected to be a male RJ45 termination at the Formic panel.

- Ethernet (Internet connection with a male RJ45 termination)

### Customer Network Requirements

What Formic will be doing on the network is collecting, buffering, and sending data related to billing for each system installed at the customer site. This includes metrics and matrices for automation-specific motions, uptime, and status of the cell. Additionally, there are services that are in place to monitor the state of the system and network, which is handled by AWS IOT, Sitewise, Speedtester, etc.

Formic has no intention to communicate with any device or system internal to the customer network. This means that it doesn't affect Formic related processes if the system is isolated on the network, as long as we have internet access and the following network configurations in mind:

#### VPN Router

IP conflicts or network-related communication issues that arise late into the deployment phase can cause days worth of extensions/delays with the install. To avoid this, Formic would prefer to be in touch with the site IT as early as possible.

For all IT related questions relative to the VPN router, such as WAN Whitelisting and port forwarding, we recommend this [IT suggested reading](#). All ports and exceptions exist within this link, specifically for the VPN router, but in an attempt to summarize this page, ports and exceptions are listed below:

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## Ports

- Outbound 80 TCP
- Outbound 443 TCP
- Outbound 8443 TCP
- Outbound 10516 TCP
- Outbound 1194 UDP
- Outbound 123 UDP
- Outbound 53 TCP & UDP
- Outbound ( ) ICMP (Echo Request)

## Servers, domains, and DNS lookup

- \*.ixon.cloud
- \*.ixon.net
- \*.ayayot.com (phonetic IIoT)
- whitelist.ixon.cloud

## AWS Services

For the purposes of AWS services, we also require the port 8883 be open.

- Outbound 8883 TCP

Additionally, a list of IP addresses for AWS outbound traffic will be provided in another file named 'AWS\_IP\_Ranges\_USWest-2.txt,' which will be a list of all outbound AWS traffic the network, specific to the VPN router, may experience.

## Speedtest

Formic also uses a speed test in order to monitor the health of the network. This speed test always uses port 8080 inbound/outbound. There are thousands of domains that are available but only a select number are used for the speed test depending on the location of the deployed system. We can compile and provide a list of the domains once the system is installed and port 8080 is open.

- Inbound/outbound 8080 TCP/UDP

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