BAILYS

Unifi Controller

Introduction

The Ubiquiti Unifi hardware installed at Bailys is intended to be a robust alternative to the typical setups of a single access point providing for all of the wireless connections in the building. The Unifi hardware implemented is further advanced for Mesh networking. The implementation of the new Mesh networking hardware allows for a far more robust network infrastructure, allowing for multiple access points to provide the same SSID. This allows for the use of multiple access points with lower broadcasting power, yet greater coverage over the property, without the end devices requiring any extra setup.

The Unifi Mesh network is setup with a few main basic components: Unifi access points, a Unifi controller, and end devices. Each access point broadcasts the same SSID as the others, however if one access point is unable to gain network access through the RJ-45 port, it will attempt to connect to another Mesh device to re-establish network access.

Hardware Setup

Although most of the setup of the mesh devices can be set through the controller, there is a need to setup the network port on the Ubiquiti TOUGH switches to exclude it's self from a VLAN tag. The port must be set to preserve the original state of all packets with a tag, as the mesh device will handle VLAN's, rather than the switch it's self. The setup of each port on the switch requires one of three definitions: T, E, U. T stands for Tag, which will preserve the VLAN tag for every packet that arrives at this port. E stands for exclude, if a packet arrives at this port, with the specified tag, the switch will drop the packet. Finally, U stands for Un-tag, which will remove the VLAN tag from the packet, and communicate with the device without the device knowing it's part of a VLAN.

How to access Unifi

There is currently no way to connect directly to a Unifi device, as they are designed to be managed by a controller only. The controller is a Java application, which manages and synchronizes the devices in order to provide a mesh network. This Unifi controller is run on a Vagrant Ubuntu Linux virtual machine, and it's port is mapped through to the client machine (the Camera Server) to port 1337. There is currently a link on zoneminder.home which will take any user to the Unifi controller page.

Unifi Controller Setup

The setup of the Unifi controller may appear to be complicated and intimidating at first. The controller is installed on a Vagrant VM in order to allow the controller to be more portable, and transferable to another server without having to setup the system all over again.

Setting up the controller required for the installation of Virtual Box, Vagrant, and the Ubuntu 14.04 image. All of this is installed on the Camera Server, as it resides on the Micros .100 network, as well as it is the only Linux server currently running on the network. To access the virtual machine, simply browse to /home/camerasrv/Vagrant. Once there, simply type *vagrant ssh*, and the system will automatically log in the user into the Virtual Machine.

At this point a user can configure Monit, and the Unifi Controller installation.