DOME™ Building Automation Starter Kit

Site Survey Guide

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DOME™ Building Automation Starter Kit — Site Survey Guide

1. Overview

This document is an instruction manual for IT staff or system integrators to better understand how to survey a site for installation of the Veridify DOME solution. It assumes you are familiar with the purpose of installing DOME to secure the building automation network. This document, along with the *Site Prequalification* checklist, will help ensure that a building is suitable for a seamless DOME installation experience.

2. DOME Components

Installing DOME at a site requires installing a DOME Interface Appliance™ (DIA™) and at least two DOME Sentry™ (Sentry) devices. The DIA is the local manager for the network. It securely enrolls each Sentry into the OT network and ensures that each Sentry is properly configured. It also aggregates all log messages from the Sentry devices and uploads them to the DOME cloud service for analysis and notification.

The Sentry devices protect existing OT devices and provide access to the secure OT network. Every device on the network segment will need to be secured (you cannot have a mix of secure and unsecure traffic on the same network). This means you will need a Sentry in front of each BACnet/IP device on the network segment. To that end, you will need an accurate count of the number of BACnet/IP devices in the building which will be part of the DOME solution.

You will also be given a DOME Server account, and you will be able to create an account for your customer so you and they can monitor their site and receive alert and status emails.

3. Surveying the OT Network

3.1. Network Type

Currently, DOME only supports BACnet/IP, so it is important to discover which devices are using it. For example, there are some installations that use alternate protocols over the IP network instead of BACnet, or networks that use BACnet over non-IP transports. In that case, the DOME Sentry will not protect that proprietary (or non-IP) protocol but can let it pass through. DOME works with BACnet/IP from any manufacturer, so you are not limited to particular makes and models of devices.

3.2. Network Installation

It is imperative that you understand how the current OT network is configured and deployed. Not only will you need to learn the IP Address and Netmask configuration, but you'll need to know something about the physical layout as well. For example, are devices daisy-chained where the network connects from one device to another using built-in switches, or is it a star (or hub-and-spoke) network where each OT device is connected a common router?

All BACnet traffic to/from a Sentry device must be encrypted. The Sentry will block all unencrypted BACnet traffic, so if there are unknown BACnet devices on the network, they will not be able to communicate with DOME-protected devices. This means a Sentry is required for every authorized device. Moreover, the Sentry is designed to protect only a single BACnet/IP endpoint (but that endpoint can be a router with multiple BACnet/MSTP devices sitting behind it).

Some devices require access via other (non-BACnet) protocols, like HTTP. By default, the Sentry will block all non-BACnet traffic, but it can be configured to allow non-BACnet traffic to the protected device to meet those requirements.

4. Where to place DOME Components

4.1. DOME Interface Appliance

You will need to find a suitable network access location to install the DIA where it will have access to the OT network and also have access to the building's outgoing Internet (or add the cellular modem option at an additional monthly charge). The external connectivity is required to enable the email notification and DOME server dashboard data. Note that the DIA only makes outgoing connections; there is no need to open any firewall ports from the outside.

The provided DIA power adapter requires 110V AC power[1], and you will require a USB Keyboard and HDMI monitor to configure the system, so you should be sure there is a location where those are all accessible to the DIA unit.

The DIA can sit on a table or shelf, or it can be mounted to the wall by its screw plate.

4.2. DOME Sentry Devices

Each DOME Sentry device should be placed "as close to" the BACnet/IP device it is protecting as possible. The rationale is that you want as little "unprotected wire" as possible between the Sentry and the device. That notwithstanding, there is no reason that the Sentry cannot be mounted in a closet where a home-run cable terminates, or in a ceiling near a device.

Note that there is not a requirement of frequent "touch access" to the Sentry, so once the device is installed, all configuration changes can be made remotely through DOME.

The Sentry is powered by 24VAC and is mounted on a DIN rail.

5. Technical Support

Please direct all technical support inquiries to: suport@veridify.com or by phone 203-227-3151 (Option 6)

[1] The UNO-2271G DIA box actually takes 24VDC, but the power supply provided converts from 110VAC to 24VDC. Alternately one could use a 24VAC to 24VDC converter.