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Detecting rack U location using light based messages and camera

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Detecting rack U location using light based messages and camera

Abstract

As the amount of data generated daily increases exponentially, the hardware needs to process and store all that information increases also, and the speed with which new hardware can be deployed to service those needs becomes more relevant every day. Most of the automated provisioning solutions today still require a lot of manual steps, especially related to initial hardware inventory and setting up basic network communications.

This disclosure relates to the field of Data Center Infrastructure.

A method is disclosed for using light based messages and cameras to detect device physical location within a data center rack cabinet.

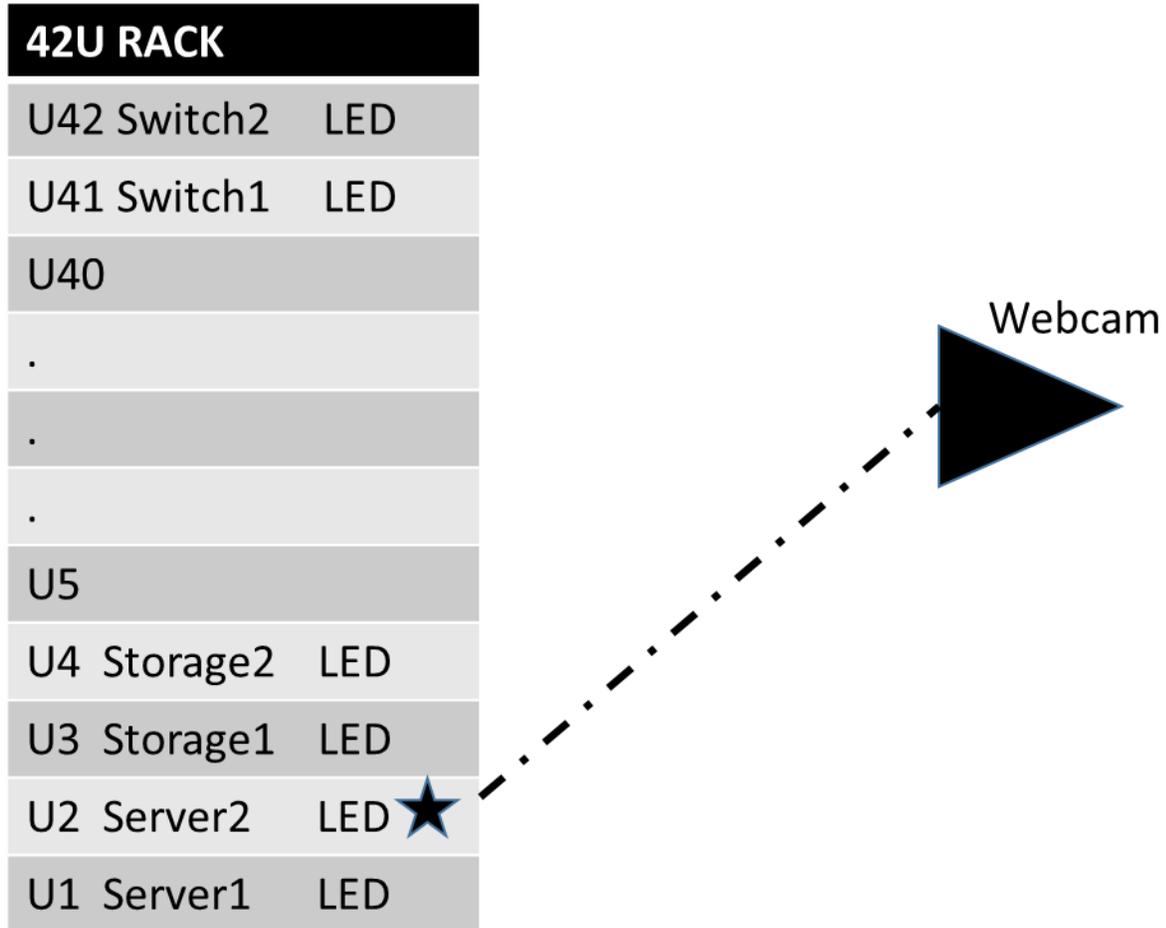
Problem statement

In the factory and onsite a lot of time is spent tracking the location and other identifying information for a rack mountable device. This includes collecting information and managing that information throughout the whole process, which includes managing the user errors associated with this manual process. Any errors generate more wasted resources as equipment needs to be moved in order to match the solution requirements.

Existing products that address this problem use electrical signals and component rack location sensors. This requires all devices in a rack to have these capabilities and resources in each of those devices product teams in order to implement this functionality. Because of resource constrains many device product teams do not implement this functionality today. Most of these products are also proprietary which means the solution is not applicable for racks with devices from a mix of suppliers.

Solution

This method involves mounting webcams in the rack door or frame so that they can observe all devices mounted in the rack. When a location detection message is sent to a device using software, the device will light its LEDs in a special pattern that will be detected by the webcams and position in the rack will be calculated using that information. The special pattern could be similar to Morse code and send device identifying information like device type and serial number.



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