



CASE STUDY

Powering Smart Buildings with Zone Power Architecture



Industry
Building Electrification



Solution
Digital Electricity

Introduction

In the ever-evolving landscape of smart buildings, the integration of technology and infrastructure plays a pivotal role. A warehouse facility with a small office space in Phoenix, Arizona, needed to efficiently supply remote power to various devices using a zone power architecture.

Project Overview

The Facility

The warehouse is a bustling hub of activity where efficient operations are critical. The facility houses inventory, logistics, and administrative functions. Additionally, there's a small office space within the warehouse premises.

The Challenge

The warehouse needed to deliver reliable power to critical devices distributed throughout the facility. These devices included:

- **Meraki PoE switches:** These switches serve as the backbone for network connectivity, powering essential components, such as cameras, sensors, and WiFi access points.
- **Door access controllers:** In specific locations, the system needed to power access controllers, including keypads and door strikes.

The Solution

The VoltServer team devised a robust solution using Digital Electricity, including:

- **Centralized power source:** A central location equipped with an uninterruptible power supply (UPS) to ensure continuous power availability even during brownouts.
- **Zone boxes:** These compact units were strategically placed throughout the facility, mounted on or near the ceiling or suspended from mid-span ceiling trusses.
- **Digital Electricity (DE) channels:** The heart of the solution, these channels transmit power from the central location to the zone boxes. Thirty-four (34) DE channels were used to drive 20 RXAC-2M receivers.



IMPLEMENTATION DETAILS

Distance Considerations

The distances to the remote zones varied significantly, ranging from 500 feet to 1,500 feet from the centralized power source.

To ensure efficient power delivery, a 16AWG 4-pair cable was used to interconnect the zone boxes to the Digital Electricity Transmitters.

Installation and Training

VoltServer, a leader in innovative power solutions, provided a comprehensive

web-based training session for the project partners. The training covered installation procedures, safety protocols, and system configuration. Armed with this knowledge, the team executed the installation accurately and successfully.



Results and Future Expansion

The initial implementation has been a resounding success. The facility now enjoys uninterrupted power for critical devices, enhancing security, surveillance, and operational efficiency. Phase 2 of the project is on the horizon, aiming to double the amount of power using Digital Electricity, further empowering the smart building infrastructure. The Digital Electricity platform enables quick moves, adds, and changes. By over-provisioning the copper links, additional "dark copper" can be quickly activated to support future power demands.

Conclusion

The zone power architecture has transformed this warehouse facility, demonstrating the synergy between technology and practicality. As smart buildings continue to evolve, innovative solutions like this pave the way for a more efficient and connected future.

To learn more or schedule a demo, visit voltserver.com
or call **888-622-8658**

