

## Controlling Card Access with UNO-2160

**Application:** Building Automation  
**Location:** USA

### ***Project Introduction:***

A major telecommunications company in the U.S. needed to automate and increase the effectiveness of its security system. In the past, they issued keys to employees for room-to-room access, and had guards posted throughout hallways to secure all areas. Today, they've implemented a facility-wide card-access system that allows them to control access with great detail and limit the number of guards on duty. The system includes UNO-2160 provided by Advantech and software supplied by a local vendor.



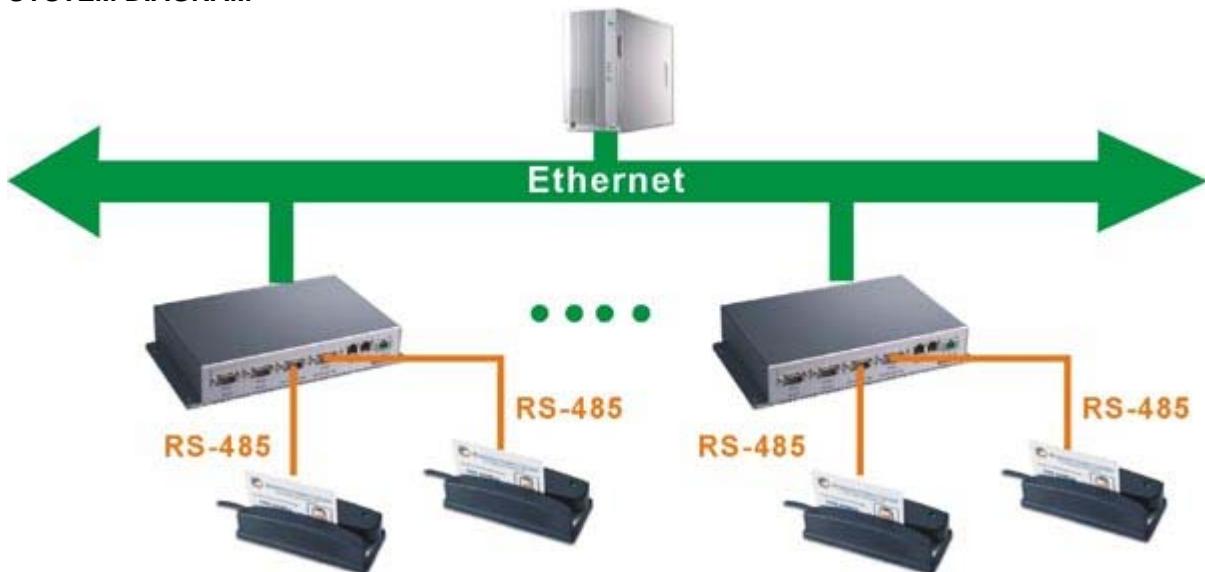
### ***System Requirements:***

The old-fashioned key-system was expensive to maintain. It allowed access to anyone with a key 24 hours a day and it was easy to get keys that didn't belong to you. Employees also needed dozens of keys to get around the facility everyday. Therefore, the customer needed a flexible card access system that was absolutely reliable. At the heart of the system, they needed small, easy to integrate, fanless PCs with a simple and reliable operating system. And this system had to work over their Ethernet network. They desired to have individual systems running at each access point. Then the system had to communicate via the Internet back to a main server to log all information and update access.

### ***Project Implementation:***

- UNO-2160 : Celeron® 400 Universal Network Controller with PC/104 Extension
- Security Applications from US Integrator
- Card-swipe technology and software from local vendor

### **SYSTEM DIAGRAM**



***System Description:***

UNO-2160 was installed as a controller to monitor each entry in one room. There are typically 2 doors in each room – sometimes 1 door. UNO-2160 connected to up to 2 card-swipe readers via RS-485. When employees swipe their cards to access the door, the log information will be stored in UNO-2160. Then all information is transferred via the local Ethernet network back to a main server.

***Conclusions:***

UNO-2160 was ideal for the monitoring system because of its compact and fanless design, simple installation and reliability. Equipped with two RS-485 ports, UNO-2160 fulfilled the many connections required for the card-readers. Through Ethernet connectivity, the system could communicate back to the server for data logging and updates.

In security applications, Linux is commonly used because of its flexibility, cost, and security. In addition to Microsoft® Windows® operating systems, UNO-2160 can run Linux to meet the customer's requirements.