NEW WEB BROWSER-BASED APPLIANCE ADDS TO DATA CENTER SECURITY

Taking the Next Step to Protect Critical Data

If you live or work there, you understand that North Florida is the Thunderstorm Capital of the United States. The combination of warm Gulf waters and prevailing winds from the south and west creates an ideal environment for storms laden with lightning, often arriving in the late afternoon. If you are responsible for operating a data center, that can be a problem. Lightning and strong, localized winds lead to electric outages, and outages can mean data interruption. That's not good.

POWER RELIABILITY AN URGENT NEED

Tom McHaffie is an air conditioning, mechanical systems and electrical contractor with an emphasis on controls and automation in Tallahassee. He has several clients who operate data centers, and they have expressed concern about protecting data and keeping operations running through local power outages. In 2008, McHaffie installed a 130 kW emergency generator for a Tallahassee firm that provided time-critical data to a variety of clients around the country – clients who needed access to the data immediately. These clients don't understand or care that thunderstorms and associated power outages are a fact of life in this part of Florida. In order to provide reliable service, the data company had already taken two steps.

The first step was to install uninterruptible power supplies (UPS) in their server room. These provide continuing power to the data servers for brief outages. For the second step Tom McHaffie installed a 130 kW natural gas-fired standby generator on a pad outside the building. This unit comes on line after a 15-second delay in utility electric service. The unit picks up the power supply backup requirement from the UPS systems and provides the full power requirement of the entire office, including the critical air-conditioning in the server room.

They approached McHaffie with an additional concern because they wanted to take another step. That was to find a system to notify key personnel whenever an outage occurred, so that they could assure that the first two processes had taken place. According to Operations Manager, Dave Smith, the company was looking for both rapid notification that an outage had occurred and logging of the event so they could check the systems subsequent to operation. "*As it was,*" Smith says, "*we wouldn't know if the generation unit had run during off-hours. We want to know that to assure data integrity and to provide appropriate equipment maintenance.*"

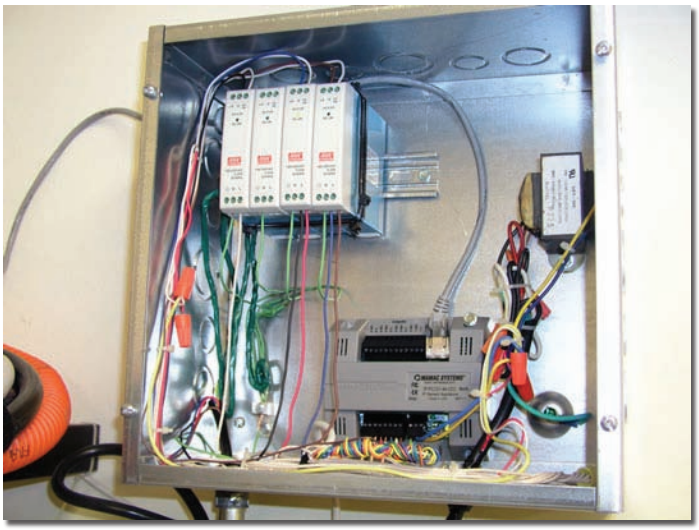
McHaffie has a wide range of experience with control systems and began looking for solutions that would allow the facility to communicate to staff when it experienced an outage. He had very recently learned about a web browser-based control appliance called *Maverick*, manufactured by MAMAC Systems, Inc., of Minneapolis.

FLEXIBLE INSTALLATION POSSIBILITIES

The recently-introduced tool can be installed at any facility where there is an Ethernet connection. *(Even when an Ethernet connection is unavailable, you can use the convenience of a wireless 3G router!)* The *Maverick* appliance accepts

digital and analog inputs for a wide range of sensors. It also has relay outputs that can control a wide range of devices, and it has data logging capabilities. It can initiate email alerts when conditions go outside preset parameters, including power outages or machine operations such as onsite generation operation.

The appliance is about the size of a programmable thermostat and can be mounted anywhere in the building. It is affordable for smaller facilities where a full building automation system might be prohibitive. No dedicated computer is required because the appliance has an on-board web and email server. McHaffie saw this as a potential solution for the data center communications challenge. Following his recommendation, the *Maverick* appliance was installed.



PROBLEM SOLVED

According to Dave Smith, "*This solution gives us better information on our backup system, and lets me know any time it goes into operation, including nights and weekends.*" He points out that it is important for him and other staff members to know when they are experiencing an outage in the data center. "*We'll normally want to monitor the situation just to stay on top of things.*"

Smith indicates that it is important to exercise standby generators with regularity. He notes, "*We exercise the standby generation unit once a week, and we also verify the notification and data logging systems.*" He is pleased with the added level of system security provided by the *Maverick* appliance and recommends it to other owners who are looking for improved standby generation reliability.

SIMPLE TO INSTALL AND PROGRAM

McHaffie was impressed at how simple the unit was to install and program. "*The*

logic is all hard-wired into the unit so it is easy for a customer to understand and to reset parameters where that is necessary. I also tell customers that there will be no need for software upgrades or personnel re-training. That's important to many small businesses."

NOT A UNIQUE PROBLEM

Since installing the system at the data center, McHaffie has installed *Maverick* systems for other data centers with similar standby generation verification issues. The **Florida School Boards Insurance Trust** told a familiar story. System Administrator, Patrick Barber, says, "*We were concerned about the reliability of utility power supply and also had concerns about the emergency back-up power. The Maverick covered all the bases for us -- at a cost so reasonable that it made the decision an easy one.*"

Barber says he is now comfortable about getting prompt notification of any problems at the facility. "*I have the ability to view conditions from my own BlackBerry®, and in the event of a generator failure, I have immediate notice to head over to our operations center to ensure data preservation in a timely manner. The Maverick technology was exactly what we were looking for.*"

SUITABLE FOR MANY OPERATIONS

McHaffie explains that the *Maverick* appliance can be used for many types of data logging and reporting, including server room temperature conditions, and for monitoring or controlling fans, pumps or other devices. Barber indicates that he also uses the device to control the facility night lighting schedule and smoke detection. "*Originally, I would have to go down to the basement to program any time changes for seasonal deviation. Now, I just call up the Maverick and change*

the parking lot light schedule with the click of a mouse. It's extremely convenient and one less thing for me to worry about." Barber adds that he is very pleased with the ease of use and the simplicity of the *Maverick*. "*The configuration screens come right up on your browser -- everything is plain and simple. It takes no advanced programming or technology to operate.*"

VERIFIES GENERATOR OPERATION

Tom McHaffie also worked with William Rogers, Vice-President of Information Technology, at **Premier Bank in Tallahassee**. Rogers explains, "*Tom installed a 150 kW standby generator for us a few years back when we moved into our new Operations Center. We were confident that our data was protected; but quite frankly, there was no way to know for sure. Our concern was that a power failure in the middle of the night would not be detected.*"

Rogers explains that with the *Maverick* IP Appliance, the management team is provided critical alert information that allows the company to respond in the event of a catastrophe. "*The Maverick technology also allows us to monitor server room temperature, and we were able to use one of the inputs as a smoke detector as well. In the event of an HVAC failure, we now have advanced detection and notification.*"

SOLVES LIGHTING HEADACHE

Rogers adds that at one of the branch bank locations, they placed premises lighting and signage on a *Maverick*. "*For years we had to attempt to keep up with changing the tabs on two seven-day timers. Lights and signage was a constant headache. Thanks to the Maverick, we can stay on top of more precise control, and we enjoy the cost savings of no longer burning lights during the day, not to mention the peace of mind that our liability during darkness is curtailed with security lighting that functions as it should."* He concludes, *"We are very pleased with the Maverick -- it's the simple configuration and user-friendly protocol that allows our managers and staff to adjust settings from their work station or PDA.*"

MEETING MANY NEEDS

Tom McHaffie is pleased he has been able to add security for data centers and to simplify systems operations in many other areas, including temperature monitoring, lighting, and initiation of relays for HVAC operation or other purposes. He says, "*The Maverick IP Appliance fulfills important needs for data centers and many other applications. It really is a great new tool.*" He adds, "*We're still learning all the places this device can meet customer needs for alarming, data logging, automation and control.*"