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A SMALL BUSINESS GUIDE

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# **SURVIVING POWER & INTERNET OUTAGES**

STF CONSULTING

*Bridging the Gap between Business and Technology* <sup>SM</sup>

*Weather experts say Hurricane Sandy was no fluke; our weather patterns are changing. That's putting lots of pressure on electrical and Internet infrastructure that was never designed to withstand extreme weather. That means small business owners can no longer expect utility services to be as reliable as they have been in the past.*

If you want to sustain your small business IT environment in event of a power or Internet outage, and if you have chosen to maintain your IT onsite instead of choosing cloud computing or datacenter hosting, you'll need to take steps to ensure you can continue to operate. (To find out more about cloud computing and hosting, please see our related whitepaper "Moving Your Small Business IT to the Cloud.")

## **Outages and Your Small Business IT Systems**

Here are the possible outage scenarios that could affect your business:

- **ELECTRICAL-ONLY OUTAGE** — Power is down, but Internet circuits are live and functional, if powered
- **INTERNET-ONLY OUTAGE** — Internet is down, power is on
- **ELECTRICAL AND INTERNET OUTAGE** — Both Internet and power are down

## **Addressing Electric Outages**

Small businesses rely on IT, and IT requires power. Chances are your computers and servers are plugged into UPS systems, or Uninterruptable Power Supplies, also called battery backup. These systems protect your equipment from brief disruptions in power — usually less than 10 minutes or so. That gives you enough time to switch to an alternate power source or safely power down the equipment. What they cannot do is provide an ongoing source of power.

As those who endured Hurricane Sandy can attest, power outages can last far longer than that — potentially for weeks. A survey by CA Technologies found that the average business suffers 14 hours of IT downtime per year, with half saying IT outages damage their reputation. Small enterprises surveyed lost, on average, more than \$55,000 in revenue due to IT failures each year.

Installing a standby generator is the best way to ensure ongoing power for IT and other operations. There are two types:

**PORTABLE GENERATOR:** These are lower in cost, but offer some distinct disadvantages. In addition to requiring extension cords and continual refueling and posing a carbon monoxide danger if used improperly, the uneven voltage portable generators produce will almost certainly damage your computers and servers. A newer type of generator, an inverter generator, shows promise: it generates clean power, good enough for electronics, and can also run at varying speeds, significantly reducing noise and fuel consumption. However, current models are too costly for practical use in supporting office operations.

**STANDBY GENERATOR:** These connect directly to your building's electrical system and gas line or fuel tank and switch power automatically to the generator in a power outage. In addition to that convenience, they offer clean power that won't damage sensitive electronics, require no monitoring and refueling and can be less expensive to operate than portable generators, apart from the upfront costs. However, if your office is located near a residential area, it may be difficult to get a permit for installation.

### Steps to ensure continuous power:

1. Have your [IT services company](#) examine the load on your current UPS systems. Over time, more and more items may have been added, exceeding their capacity.
2. Make sure your UPSes are in good shape. Check batteries often and replace them every three years or so. Do this whether or not you plan on getting a generator.
3. Decide whether you are interested in a standby generator.
  - **If yes,** contact a licensed commercial electrician about properly sizing a generator for your operations. Keep your [IT services company](#) in the loop, as they may offer valuable input that the electrician may not consider.
  - **If no,** accept the fact that power outages will happen. Reconsider hosting your most critical applications in the cloud or in a datacenter. For many, email is the one application they can't live without.

## Ensuring Internet Access

Generally, to have Internet in your offices, you need electricity. So step one in making sure your operations have continuous Internet access is to install a generator for power. Then, to protect against the loss of your primary Internet connection, you need a secondary, standby connection. So, for example, if your primary Internet access is via cable Internet, your secondary connection might be DSL.

As with power, you want your secondary connection to kick in automatically if the first one goes down. That's accomplished by setting up a firewall that supports multiple Internet connections, with automatic failover capability from the primary to the secondary Internet circuit.

"We feel that the WatchGuard network security appliances are some of the best products out there, says Sean Furman, president of STF Consulting. "The SonicWALL line is solid too. Regardless of which firewall you choose, you definitely want to test the failover configuration periodically, just to ensure that everything is working properly. We also suggest that you keep the firewall support contract current."

Most Internet service providers (ISPs) issue new (dynamic) IP addresses at various intervals, but a static address ensures the most reliable connectivity possible with your ISP. It also allows you to failover inbound services to the secondary connection with the least amount of administrative effort.

### Steps to continuous Internet access:

1. Order secondary service. Call Internet service providers in your area to see what they are offering.
2. Make sure you order static IP address service from both Internet service providers.
3. Have your IT services company configure your firewall to failover to the secondary Internet line should the primary line stop working.

Small businesses have grown more dependent on IT to function at the same time power outages are growing more frequent. [Eaton Corporation's 2011 US Blackout Tracker](#) found the number of people affected by outages jumped from 17.5 million in 2010 to 41.8 million in 2011, continuing a pattern of increases. It's essential for small businesses to enact measures to ensure their critical IT systems can function when Internet access and power go out.

## Frequently Asked Questions

### **What size generator do I need?**

The right size depends on your expected usage, with allowances for surges when powering up a device as well as for future capacity needs. Your licensed electrician can help determine the right specs. Don't forget that the generator will need to cover cooling and other lighting/services for the company to operate with some level of normalcy.

### **What brand of generator should I buy?**

There are many good brands. Talk to your electrician about the best brand and types of generator for your business. [Kohler](#) and [Generac](#) are two popular brands of standby generators.

### **What type of maintenance does a standby generator need?**


Generally, standby generators need an oil and air filter change every six months, and periodic maintenance service. These generators can be counted on for about 15,000 to 20,000 hours of use. Always defer to the units documentation and your licensed electrician.

### **Do I still need UPS if I have a generator?**

Yes. If you are using a portable generator, you will want the safe and graceful shutdown that a properly configured UPS can provide. If you opt for a standby generator, your UPS will provide a seamless handoff from utility power to generator power without the need for shutdown.

### **What is a datacenter?**

It's a facility outfitted to properly house computer systems and associated components with measures such as redundant power and Internet connections, environmental controls and security. Many small businesses are turning to cloud services or datacenters to host their software and data rather than maintain their own servers and systems on site.



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